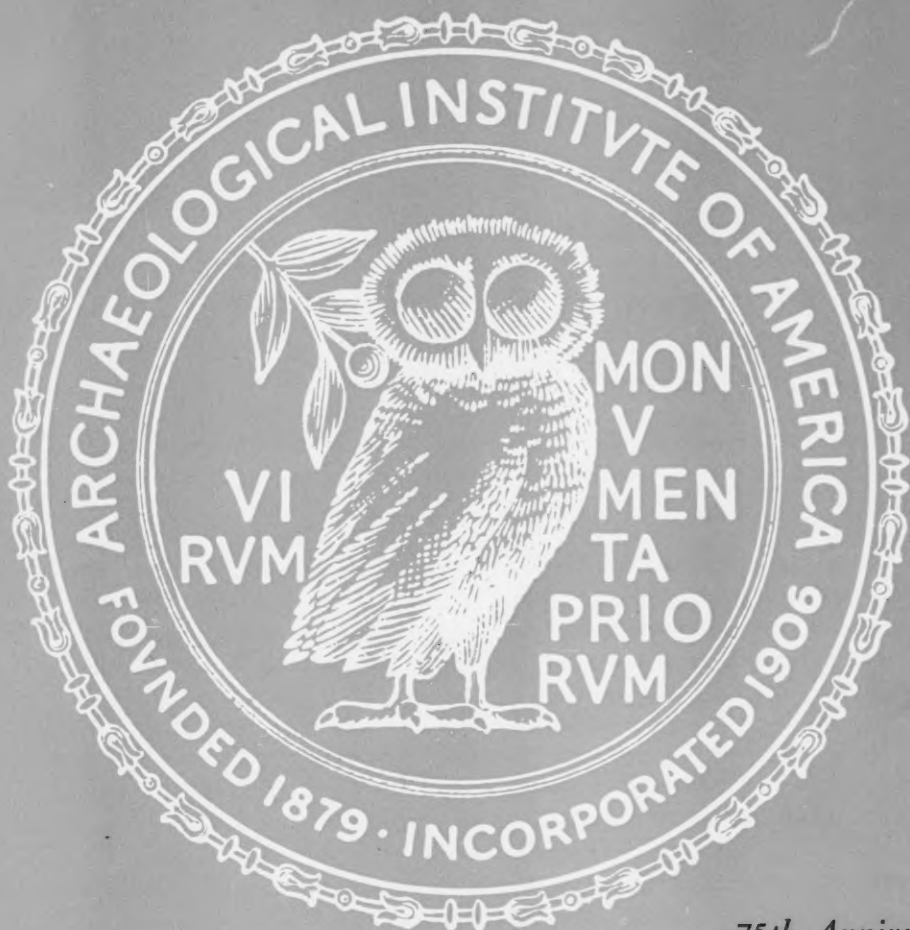


ARCHAEOLOGY



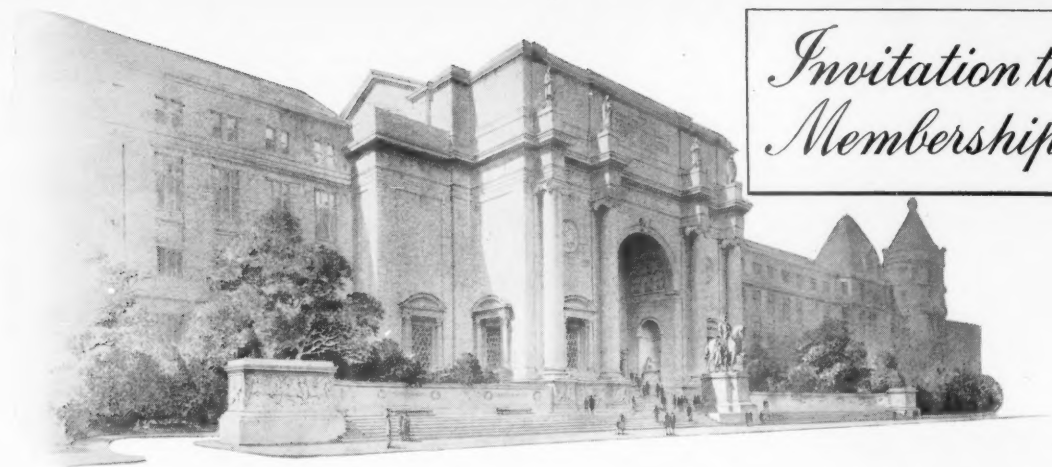
75th Anniversary

Archaeological Institute of America

Winter 1954

VOLUME 7 NUMBER 4

\$1.25



Invitation to Membership

THE AMERICAN MUSEUM OF NATURAL HISTORY

NEW YORK 24, NEW YORK

To the Readers of *ARCHAEOLOGY*—

This Museum is pleased to number among its members many of the readers of this distinguished magazine. To those who are not Members, we extend an especially cordial invitation.

It would be hard to name two fields of interest more closely allied and mutually complementary than archaeology and natural history. Man and his works have always flourished or declined in an intimate relationship to the facts and forces of nature about him—surmounting or submitting to obstacles; using, misusing, or overlooking opportunities. The study of one is illuminated by knowledge of the other, and the interest of both is vastly enhanced when they are viewed together.

As a Member of the American Museum of Natural History, you will receive *NATURAL HISTORY MAGAZINE* ten months of the year. This unique publication will keep you informed of the most significant current inquiries into the nature of man and his environment, from the earliest days of pre-history to the present. You, far more than most readers, will enjoy the related knowledge gathered by the Museum's many expeditions to all parts of the world, and the contributions of its archaeologists, ethnologists, paleontologists and other leading scientists to the understanding of the past.

Associate Membership dues are only \$5 a year, and, in addition to *NATURAL HISTORY MAGAZINE*, you will receive a Membership card and other benefits. We are as certain that you will enjoy the association as we are that your application will be warmly welcomed.

Sincerely,

William A. Burns

Membership Secretary



ARCHAEOLOGY

A MAGAZINE DEALING WITH THE ANTIQUITY OF THE WORLD

VOLUME 7 NUMBER 4

DECEMBER 1954

Contents for Winter 1954

The Institute and Its Future	194	HENRY T. ROWELL
The Archaeological Institute of America—Early Days	195	ANNE V. DORT
The Ancient World on Film	202	RAY GARNER
The Antiquities of Paestum	206	PELLEGRINO CLAUDIO SESTIERI
The Sails of the Ancient Mariner	214	LIONEL CASSON
The Chillón Valley of Peru: Excavation and Reconnaissance, 1952-1953 (Part 2)	220	LOUIS M. STUMER
Archaeology as a Career	229	JOHN HOWLAND ROWE
The Princeton Art Museum: Antiquities Received in Recent Years	237	FRANCES FOLLIN JONES
The Hephaisteion Revisited	244	ALISON FRANTZ
Archaeological News	249	
Brief Notices of Recent Books	255	
New Books	263	
Table of Contents for Volume 7	264	

ARCHAEOLOGY is indexed in the ART INDEX

ARCHAEOLOGY is published quarterly in March, June, September and December at 73 Main Street, Brattleboro, Vermont, by the ARCHAEOLOGICAL INSTITUTE OF AMERICA, Andover Hall, Cambridge 38, Massachusetts.

Entered as second class matter at the post office at Brattleboro, Vermont, on July 11, 1952, under the Act of August 24, 1912.

Subscription, \$5.00 per volume in the United States. Foreign postage, \$0.50 additional. Single numbers, \$1.25. Members of the ARCHAEOLOGICAL INSTITUTE OF AMERICA may choose ARCHAEOLOGY as a perquisite of membership. Subscriptions may be addressed to the publisher at 73 Main Street, Brattleboro, Vermont, or to the Business Manager at Andover Hall, Cambridge 38, Massachusetts.

Manuscripts, communications, books for review, and advertisements should be sent to the Editor at 211 Jesse Hall, University of Missouri, Columbia, Missouri.

Copyright 1954 by the ARCHAEOLOGICAL INSTITUTE OF AMERICA. All rights reserved.

Printed by The Vermont Printing Company, Brattleboro, Vermont.

EDITOR	Gladys Davidson Weinberg
CONSULTING EDITOR	Jotham Johnson
ASSOCIATE EDITORS	J. Alden Mason Winifred Smeaton Thomas Margaret Thompson
EDITORIAL ADVISORY BOARD	Bernard V. Bothmer Linda S. Braidwood John L. Caskey Kenneth J. Conant Hugh Hencken Dorothy K. Hill Casper J. Kraemer, Jr. George E. Mylonas Robert L. Scranton A. W. Van Buren
ART DIRECTOR	Lawrence McKinin

The Institute and Its Future

THE ARCHAEOLOGICAL INSTITUTE OF AMERICA this year celebrates its seventy-fifth anniversary. It has nearly twenty-five hundred members divided among forty-one local societies and a membership-at-large. The Institute publishes two quarterly journals, a series of monographs, a newsletter and an annual bulletin. It also sponsors lectures which are delivered before the local societies each year. These functions reflect the Institute's interest in scholar and layman alike, for since its earliest years both have been welcomed to its membership. The very existence of this magazine and the lecture program is clear proof that the Institute has a comprehensive humanistic view of its activities and duties. *ARCHAEOLOGY* was created in 1948 to satisfy the needs and tastes of non-professional members. And in its program of lectures the Institute strives to furnish the same combination of variety, attractiveness and authenticity which is found in the pages of this magazine.

In recent years the great increase in membership has been among laymen. This is to be expected since the number of professional archaeologists in any country is limited by the opportunities for field work, study and teaching, whereas general interest in archaeology is unlimited. Several new local societies have recently been organized, and the Institute looks forward to founding many more.

What the Institute has to offer is a contribution of the finest sort to the education and enlightenment of all—a better knowledge of the past presented in a forceful and exciting manner, and a more vivid realization of the long and arduous road traveled by mankind in many places and in many ways. It is the scholar's task to interpret the details and to build a picture of the past from the fragments which remain. The Institute must create and maintain common media through which the larger results of scholarship can be understood by everyone.

This magazine, *ARCHAEOLOGY*, is our chief medium at this time. Not only is it received by the majority of the Institute members but it enjoys a healthy outside circulation as well. With the support afforded by growing membership the editorial staff will be able to enlarge the magazine and to improve its appearance and contents. The lecture program too does much to stimulate interest, and the Institute hopes to provide more lectures in the future.

Finally, there are media of popular appeal which the Institute is just beginning to use. What can be done with the camera in expert hands to bring alive the monuments of the past is known to those who have seen Ray Garner's magnificent colored film on ancient Egypt. Mr. Garner is now at work making a film on Greece in which the Institute is officially interested, and we hope that others will soon follow. The success which has been achieved by archaeological talks and demonstrations over television has opened our eyes to possibilities which are being explored.

It is impossible, of course, to foresee the future with any exactness. But soundness, good purpose and a will to work are assets with which any institution can face the future confidently. The Institute possesses them in an enviable measure and looks forward to serving archaeology in all its aspects even more effectively for many years.

HENRY T. ROWELL, *President*



CHARLES ELIOT NORTON, founder of the Archaeological Institute of America and its president, 1879-93.

This account of the beginnings of the Institute was compiled by Anne V. Dort of the Fogg Art Museum. She was assisted by Stephen B. Luce, Recorder of the Institute, as well as by G. M. A. Hanfmann, A. V. Kidder, Robert A. Laurer and W. S. Smith

THE ARCHAEOLOGICAL INSTITUTE OF AMERICA—EARLY DAYS

IT IS PROBABLY SAFE to assume that sooner or later some organization of archaeologists would have sprung into being in the United States. That it arose in Boston in the late nineteenth century may be regarded as symbolic of that "flowering of New England" of which the intellectual and cultural significance has been so eloquently described by Van Wyck Brooks. It was a climate of enthusiasm for the power of the mind and for the appeal of the arts—the climate that fostered an Emerson, a Thoreau, an Adams, a Holmes and a Longfellow.

Charles Eliot Norton was a significant figure in these circles. His Cambridge home, "Shady Hill," was the meeting place for the intellectuals of the day. He had traveled in Greece and in Italy, where he "tidied up" the sad disorder of Keats' grave. He had translated Dante and exchanged literary inspiration with Longfellow, Lowell and Ruskin, on whom he exerted a steadying influence. For five years he had been preaching the sacred gospel of the arts and of good taste in his exceedingly successful History of Art course at Harvard, thus inspiring a generation which was to lay the foundations for the development of art museums in America.

Norton had seen European countries competing for antiquity's most famous sites and he had also perceived

what great riches the British Museum owed to Elgin and Newton, and the French to their early explorers. These two objectives, to secure for America its due share in the field work in the lands of antiquity, and to bring great works of Classical art to this country, were clearly the primary motives in Professor Norton's mind when in April of the year 1879 he asked Harold North Fowler, one of his students, to write out a number of invitations.

"It is proposed to establish a Society for the purpose of furthering and directing archaeological and artistic investigation and research," the invitations began. "The services which investigations undertaken under the direction of a Society such as is proposed may render to Classical and Biblical studies, and to the Fine Arts are obvious. . . . You are invited to become a member of the proposed Society." In addition to Norton, the invitation was endorsed by Charles William Eliot, President of Harvard University, Alexander Agassiz, the naturalist who had recently made an expedition to South America, Frederick W. Putnam, curator of Harvard's Peabody Museum, and Martin Brimmer, educator and author.

The opportunities and delights that lay ahead seemed indeed "obvious" to a large number of those invited.

THE ARCHAEOLOGICAL INSTITUTE OF AMERICA—EARLY DAYS *continued*

Norton presided over the first meeting, held on May tenth, and announced that one hundred and eight persons had expressed their readiness to join the Society. He explained that the name ARCHAEOLOGICAL INSTITUTE OF AMERICA had been adopted because its agents would then be considered as representing a national and not merely a local society. William Everett, the teacher and author, felt, however, that the Society should have its "center at Boston with branches *perhaps* elsewhere." The "perhaps" held, for the Boston branch with its cultural environs and the inspired direction of its ambitious and tireless founder, who held the office of President for fourteen years, was to remain *the* Institute until in 1885

it stepped down to become a Society. It is today one of the most active, continuing the tradition which was responsible for the firm foundation of an organization which today numbers more than twenty-five hundred members.

THE EARLY DAYS were not easy, for even at the first meeting, after Martin Brimmer had been elected Vice President and E. H. Greenleaf Secretary, the winds of discord began to blow. Francis Parkman, anthropologist and author of *The Oregon Trail*, apparently assumed "that the main purpose of the Society would be to



The temple at Assos in Asia Minor, showing the eastern front restored.
(From *Investigations at Assos*, by Joseph T. Clarke, Francis H. Bacon and Robert Koldewey
[Boston, 1902-21] page 145)



Part of the sculptured frieze from the temple at Assos, showing Herakles battling with centaurs. The work is an admirable example of the early Archaic period (sixth century B.C.).
Museum of Fine Arts, Boston

promote the study of American Archaeology." Dr. Everett, on the other hand, strongly favored turning toward "things outside our own country lest the young Americans should lose all interest in what is beyond America."

The second annual meeting saw the argument continuing hot and heavy. Major John W. Powell, of the Ethnological Bureau at Washington, pleaded the necessity for competent investigations of the Indians, as "travelers are dishonest and incompetent . . . and their records are a mass of incoherent nonsense." C. C. Perkins felt it desirable to turn "to the other side, where we read every day of foreign governments taking out and carrying off works of art." This brought a retaliation from Mr. Parkman, who stated that he understood the object of the Society to be the "acquisition of Knowledge and not the acquisition of objects." Another member, Mr. Parker, said that "if Knowledge was to be the aim of the Society, then this Knowledge should be useful and not merely curious. . . . The Indians were low in the scale of civilization—Mr. Parkman's own books showed us that—and if we possessed all the pottery ware, kitchen utensils, and tomahawks which they had made, it would be no better for us." Mr. Parkman reminded the members that casts could be obtained of all objects excavated abroad, but Mr. Parker stood firm, feeling that "the Institute should not begin its work at a point where the civilization was inferior to our own instead of superior." At this point President Norton put a

stop to the altercation by saying that he saw no reason for dissension, since so little money would be available; he added, however, that if \$10,000 a year could be raised, there would then be enough for two types of research. Despite this familiar cry the Executive Committee apparently succeeded in raising the necessary funds, for it was agreed that, for the Old World, the exploration of Assos, a picturesque site near the region of Troy, would be attempted. For the New World, an expedition to study pueblo life in New Mexico was decided upon. Henceforth all kinds of archaeology throughout the globe were to come within the purview of the Institute.

THE NEXT YEAR (1881) brought the first mention of the desirability of establishing a School at Athens, and a committee including John Williams White of Harvard University and Albert Harkness, Professor of Greek at Brown University, was appointed to look into the matter. At a special meeting in November of that year the President reported that the work at Assos had finally been started in August by Joseph T. Clarke and Francis Bacon. These two Americans had in 1878 made a most adventurous journey in a twenty-foot sloop from London to Athens—an expedition which proved they had the necessary interest and stamina for this new undertaking. The New World project had been begun by Adolph Bandelier, the Swiss archaeolo-

gist. He made a thorough study of the aboriginal ruins of the Pueblo Indians in the Rio Pecos Valley, southeast of Santa Fe, the first step in his great work on pueblo cultures in New Mexico and Arizona. An excavation of the enormous mound of Cholula, southeast of Mexico City, was also successfully initiated. The huge site was subsequently explored by Mexican archaeologists.

In October, 1883, Clarke completed his work at Assos. He and his team had literally blazed a trail, despite a very limited budget and much physical hardship. The Temple of Assos, rare because of its combination of archaic Doric architecture with an Ionic frieze, remains a considerable problem for those interested in archaic architecture and sculpture. The Agora, or civic center, of Assos was found to be an exceedingly fine example of planning. Over a year was spent on the excavation of the Bouleuterion, which proved to be one of the most important discoveries, especially in relation to the closely connected group of buildings surrounding the market place. Also in the Agora was the Street of Tombs, where one hundred and twenty-four unopened sarcophagi were unearthed. Roman baths were excavated south of the Agora plateau, and here was found a most interesting bronze tablet on which was inscribed the oath taken by the Assians on the accession of the emperor Caligula. The objects which the Turkish Government permitted the excavators to bring home were given

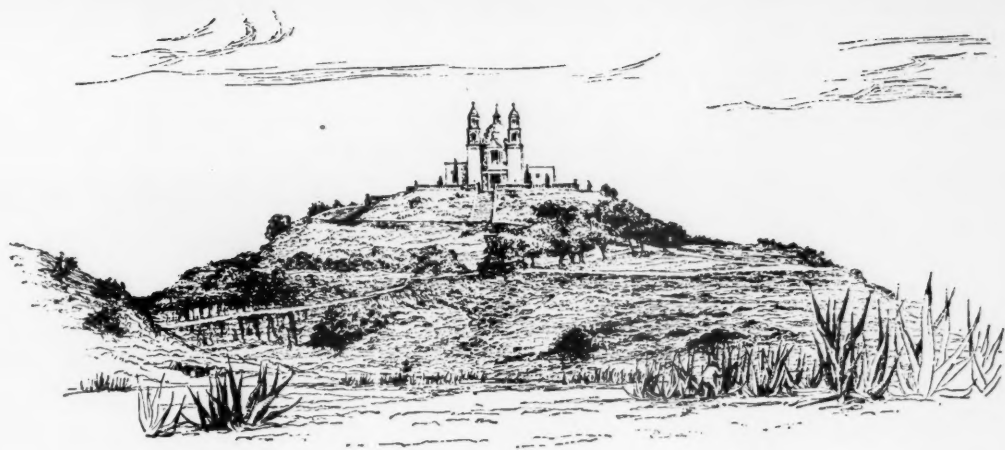
by the Institute to the Boston Museum of Fine Arts, and the Museum later voted funds to buy other objects found at Assos.

Both the work at Assos and the founding at Athens of the American School of Classical Studies in 1881 were thought to be of such interest that a public meeting was held at which reports on both projects were given. It strikes one as a great testimony to the public interest in archaeology that about seven hundred and fifty persons attended. Clarke spoke on his excavations at Assos, and William Watson Goodwin of Harvard, the first director of the School at Athens, told of his work there. Today the American School with its fine library and also the famous Gennadius Library, devoted to the Mediterranean of post-Classical times, has grown into an institution of international fame and has proved a major training ground for American field archaeologists.

FROM THIS TIME ON interest in the Institute spread fast. The sixth annual meeting, in 1884, was to be the last with Boston as the Institute. A bright prospect was an expedition to Babylonia for cuneiform research, which materialized as the "Wolfe Expedition" headed by W. H. Ward. The primary purpose was to open the way for further work. No excavations were made, but

Assos, the principal western gateway of the city (Gate No. 5).
(From *Investigations at Assos*, page 191)





The mound of Cholula, southeast of Mexico City, as it appeared in the late nineteenth century. (From *Report of an Archaeological Tour in Mexico in 1881*, by Adolph F. Bandelier [Cambridge] plate 16)

much interesting territory was covered, notably south of Babylon. This was dangerous terrain where the Turkish Government had very few outposts. There were immense swamps and lakes, and the explorers were often obliged to travel for hours through water, once turning aside for a herd of wild boars. They mapped many of the Babylonian mounds which have since become famous in Mesopotamian archaeology. An excellent collection of small engraved objects, including a number of cylinder seals belonging to Nebuchadnezzar and other kings, was brought home.

In October, 1884, at a special meeting the following regulation was adopted: "Any local archaeological society consisting of not less than ten members of the Institute may by vote of the Council be affiliated with the Institute." Societies were established in Baltimore and New York, later in Philadelphia and Chicago. By 1892 branches were established in St. Louis, Cincinnati and several other cities, bringing the total membership to over one thousand. From 1912 on, branches sprang up in Canada.

IN 1910-11 the Institute sponsored an important expedition to Cyrene, the earliest Greek colony in North Africa. At the time of the excavation many Arab tribes lived there, and it was upon them that Richard Norton, leader of the group, had to depend for labor.

The excavation produced promising material from the Ptolemaic and Roman periods of the city. On the acropolis the most notable structure was a large Doric colonnade flanked by a series of rooms, many of them containing terracotta tiles stamped with the name of Zeus. The most gratifying single find of the expedition was a marble head of Athena in the style of the fourth century B.C. Nearly three thousand archaic terracotta figurines were discovered in a garden on the northwest slope of the acropolis.

The rock-cut tombs of the cemetery had been looted of jewelry, but many vases, notably two Panathenaic amphorae, figurines, busts and inscriptions remained. Among other finds of importance were fifteen half-length statues of women, dating from the third century B.C. to the fourth century A.D. Outside the walls of the city were some fine statues of the third century B.C., one of them resembling the famous Victory of Samothrace.

Initially the Arabs had cooperated, yet there was much jealousy among the various tribes. This led to the brazen murder on March 11, 1911, of Herbert Fletcher De Cou, archaeologist and interpreter of the expedition. [For a picture of his grave see *ARCHAEOLOGY* 7 (1954) 119.—Ed.] The murderers had been hired from fifty miles away to commit the crime, the instigation for which remained a mystery. De Cou's tragic death did not deter the excavators from continuing, but soon the war between Turkey and Italy forced them to withdraw.

Marble head of the goddess Athena
found at Cyrene in North Africa.
(From *Bulletin of the Archaeological Institute of America* II
(September 1911) plate 47)



IN SUBSEQUENT DECADES it became the policy of the Institute to entrust the affiliated schools with the work in the field, the Institute serving as the sponsoring organization. This new policy made it possible to increase the number of scholarships to Athens and Rome, and to improve and enlarge the publications of the Institute. Above all, a comprehensive lecture program was developed which knit together the local societies by bringing before them as speakers illustrious archaeologists, American and foreign, many of them holders of the Norton Lectureship established in 1907 in honor of the Institute's founder. The various schools, in turn, have pushed forward vigorously in their areas of field archaeology, either undertaking projects of their own or cooperating with other institutions.

Throughout Greece activities undertaken by the Athens School have contributed to better knowledge of the Classical world and to the rapid advance of prehistoric Aegean studies. The first major effort (1892-95) was the excavation of the venerable sanctuary of Hera near Argos. At Corinth exploration of the Greek and Roman city has gone forward for more than half a century. Important contributions to the reconstruction of Minoan Crete and prehistoric Greece resulted from the excavations of Mochlos, Korakou, Zygouries, Eutresis,

Prosymna and other sites. In the heart of Athens the civic center (Agora) of the ancient city became the scene of the School's most highly organized effort, carried on through eighteen major campaigns.

The School of Classical Studies at Rome, founded in 1895, was later incorporated into the American Academy. Among its alumni are many prominent scholars and teachers. At the present time the School is conducting excavations at Cosa.

Founded in 1900, the School in Jerusalem launched many excavations in the Holy Land and adjacent regions. Tell Beit Mirsim (1926-32) became the typical site for the archaeological history of Palestine. The field survey of Transjordan, which reconstituted in outline the history of that region, is regarded as a model for this type of field work. The discovery of King Solomon's copper factories on the Red Sea has shed light on the period of Biblical kings.

The School at Baghdad (founded in 1923) was associated with the resurrection of an unknown civilization, that of the Hurrians, through the excavations at Nuzi (1928-31) and participated in the exploration of one of Assyria's earliest towns at Tepe Gawra. At present it has a share in the comprehensive study of early man carried out at Karim Shahr and neighboring sites.

THE SCHOOL OF AMERICAN RESEARCH at Santa Fe (established in 1907) helped to make the Southwest the classic land of American archaeology. It united scientists from many fields in its comprehensive studies of the pueblo cultures of Arizona, New Mexico, Colorado and Utah and was active in archaeological and ecological research in Guatemala and Ecuador. It was an important influence in formulating the program for preservation of national monuments and trained hundreds of professionals and laymen in its field schools of archaeology.

Major enterprises of the American School of Prehistoric Research (1921) were concerned with the origin of man and his development during the Stone Age and included excavations of Early Stone Age sites in France (Castel Merle), Moravia and Kurdistan (Zarzi); these were eclipsed by the excavation (together with British archaeologists) of open stations and caves at Mount Carmel in Palestine, where the history of early man was traced back some 200,000 years. After the second World

War, caves along the coast of North Africa were studied in Tangiers, Algeria and Tunisia.

Heir to the great tradition of American archaeological work in Egypt, the Institute's most recent affiliate, the American Research Center in Egypt, was established in 1948. It has not as yet engaged in excavations but has furthered research by American scholars based on material from earlier field work.

These numerous and diversified activities of the affiliated schools go far to justify the high expectations of the founders of the Institute. Yet much remains to be done. As the Institute meets in its place of origin, Boston, to observe its seventy-fifth anniversary, it seems fitting that the words of its first president be held as a challenge to its continuing success: "The night of time far surpasseth the day, and it is the task of archaeology to light up some parts of this long night with its torch, which burns ever with a clearer flame with each advancing step into the darkness."

The Spring 1955 issue of **ARCHAEOLOGY**
will bring the latest information on archaeological work being done in

IRAN

ISRAEL

EGYPT

GREECE

ENGLAND

AMERICA

and other countries.

It will also offer reports of archaeological meetings in Boston, Aix-en-Provence and Ascalon, as well as other news and reviews of the latest books.

THE ANCIENT WORLD ON FILM

By Ray Garner

• Beginning his connection with archaeology as staff cinematographer for the Rainbow Bridge-Monument Valley Expedition to the Arizona-Utah desert in 1937, RAY GARNER went on in 1938 to Africa, where he and his wife produced documentary short films on the tribes of the Belgian Congo, French Cameroon and Northern Rhodesia. In this and subsequent work they have been sponsored by the Harmon Foundation of New York City, which is directed by Miss Mary Beattie Brady. Since the war the Garners have made short archaeological films at Be-ta-ta-kin, Arizona, at the University of Arizona's excavations at Point of Pines on the Apache Indian Reservation, at the cliff dwellings of Mesa Verde, Colorado, and in the Salt Creek canyon country of southern Utah. In making all these films Mr. Garner had the cooperation of Dr. Charles C. DiPeso of the Amerind Foundation.

In 1951 Mr. Garner produced a full length documentary film on ancient Egypt, the first of his *Ancient World* series. In this ambitious project additional help was given by the Egyptian Government, the British Overseas Airways Corporation, and the American Research Center in Egypt. He was also encouraged by the late Robert Flaherty, "father of the documentary film," in whose footsteps Mr. Garner is following.

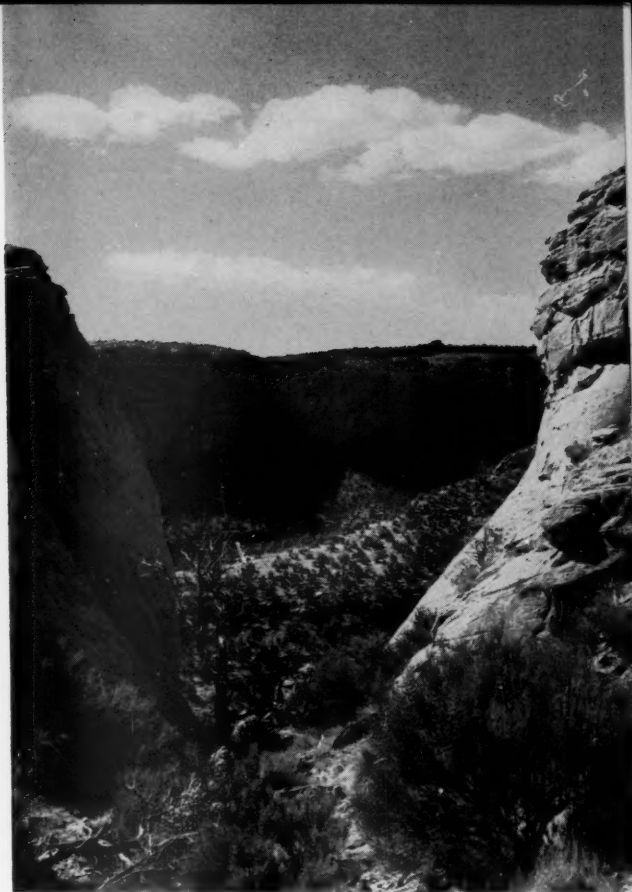
The Garners are at present working on a film interpretation of Classical Greece. In this they have the support of the ARCHAEOLOGICAL INSTITUTE OF AMERICA and the American School of Classical Studies, as well as the Harmon Foundation. Plans for the future include *The Incas*, *The Roman Empire*, and *The Tigris-Euphrates Valley*.

Those fortunate few who have seen the film *Egypt* will realize the extraordinary possibilities which lie before us in this new interpretation of the ancient world. We can all look forward to the showing of *Egypt* in cities across the United States, beginning in September, 1955, and of *Greece* soon thereafter.

IT IS AN unfortunate paradox that the motion picture—perhaps the most flexible of all media of expression—has been so little used in fields where its greatest potential lies. The major studios have over-exploited the presentation of fiction, the educational producers have amply demonstrated the power of the camera to clarify facts, but the great middle ground—film as an art in itself—is still in the pioneering stage. In painting, sculpture and music there is continual experimentation but the motion picture, with few exceptions, remains static in form and unimaginative in treatment. The reason is not difficult to determine: the least expensive of films is a relatively costly project, thus inevitably tying creative effort to the profit motive.

Our dream, now nearing realization, is to set up a special unit, under the aegis of the ARCHAEOLOGICAL INSTITUTE OF AMERICA, to produce a series of documentary feature length color films which will tell the story of the ancient world. *Egypt* is finished. We are now in the final stages of photographing *Greece*. To date it has not been considered practical to undertake the expenses of a major documentary film (including an original symphonic musical score) unless some government or industrial agency contributed funds, and general theatrical release was assured. We propose to make full length documentaries of professional quality for non-theatrical use. The answer lies in producing on a small budget. With low overhead, a small staff (no more than three for all research, writing, photography, editing and sounding) and the help of interested organizations which would benefit (local governments and transportation companies) we propose to make the *Ancient World* series on a budget so small that costs will be readily amortized by a single season of road shows, leaving the profits from sale and rental of prints as operating capital.

In spite of a shoestring budget we must produce films which are up to accepted standards in every way—exposure, lighting, composition, camera movement, color rendition, editing, music, narration and sound effects. Just as a book publisher must acknowledge the fact that a bad printing job on poor paper stock would ruin the best literature, so



TSEGI CANYON, in Arizona. In this region was made the documentary film about the cliff dwellers.

we must match the extremely high technical standards set by even the worst of Hollywood's products. This can be done by realizing the limitations of our equipment and by imaginative treatment. We cannot, for instance, light up a very large indoor scene. But we can limit our coverage and perhaps gain better results by working in close. With modern color films we can cover any outdoor subject as well as the best equipped commercial unit.

The story of man cannot be told without battles. This would pose no particular problem to a Hollywood producer. He has the wherewithal to costume and equip thousands of actors and reenact a battle on a grand scale. But results are what count, and even the best of Hollywood's ancient battles, staged

THE ANCIENT WORLD ON FILM continued

with scientific precision, never seem to ring true. In the Greek film we must touch upon the Spartan stand at Thermopylae. If we had a million dollars we could show the Persian hordes sweeping down upon Leonidas' brave band—complete and accurate down to the last detail of armor and armament, but the feeling of reality would be almost impossible to achieve.

At Thermopylae we will suggest the battle: huge thunder clouds sweeping over the mountains and plains to the north; trees and shrubbery beginning to move under a gradually increasing wind; a few boulders standing firm as the wind whips sand, twigs and pebbles unavailingly against them. The music increases in tempo and volume. At the height of the sound and fury of the elements the scene slowly fades out. A slow fade-in reveals a group of flowers nodding gently on the now placid battleground. The camera sweeps very slowly up to the sky as the narrator says, "Go tell the Spartans, thou that passeth by, that here obedient to their words, we lie."

The most challenging aspect of the work is the treatment of the subjects themselves. We intend to make a full length (six reels, sixty-six minutes) documentary film of each of the civilizations or geographical areas where scientific investigation has gathered sufficient material to warrant it. Some of the films will concentrate on a particular culture, while others will spread over several cultures which have occupied a particular area. The method of interpretation will vary according to the subject itself. The Egyptian film, while not pretending to be a history of Egypt, uses a historical thread for continuity. The Greek film, the narration for which is entirely in the words of the ancient writers, concentrates, after a prologue on mythology, on the age of Pericles. Whatever motif might best carry the point and flavor of an individual culture will be used, always dependent, of course, on the art and architec-

ture which remain in good enough condition to tell the story. In these first two films no humans are shown; indeed nothing is shown which was not made by the ancients themselves. We may change this format in the future but we shall always endeavor to keep our work as close as possible to the tastes of the ancients whose world we portray.

The difficulties are obvious. We are trying to make motion pictures of things which do not move. Since the archaeological remains are static, we must try to create the illusion of movement with camera motion, carefully spaced editing, the use of closely synchronized music and sound effects. Then, too, we shall use natural movement wherever it can be worked into the continuity—clouds, cloud shadows, the wind, snow, rain and the sea. If all these elements are woven together skilfully, each individual viewer feels that what he sees is a personal experience. The lack of actual motion and of any human characters is more than compensated for by the high degree of emotional appreciation.

There are cinematic advantages, too, and these should be used as much as possible. The camera can move in on an object, first showing it in relation to its surroundings, then isolating and magnifying it so that more of its artistic impact can be felt than if the object were actually held in the hand. Also, details of art works, as in the case of vase paintings, can be advantageously used in extreme closeups to help tell the story. Trick or "arty" effects, however, should not be used for their own sake. In order that the ancients may tell their own story, their works of art must be shown in as straightforward a manner as their condition will permit. We shall use unusual effects only to cover up or subdue the ravages of time.

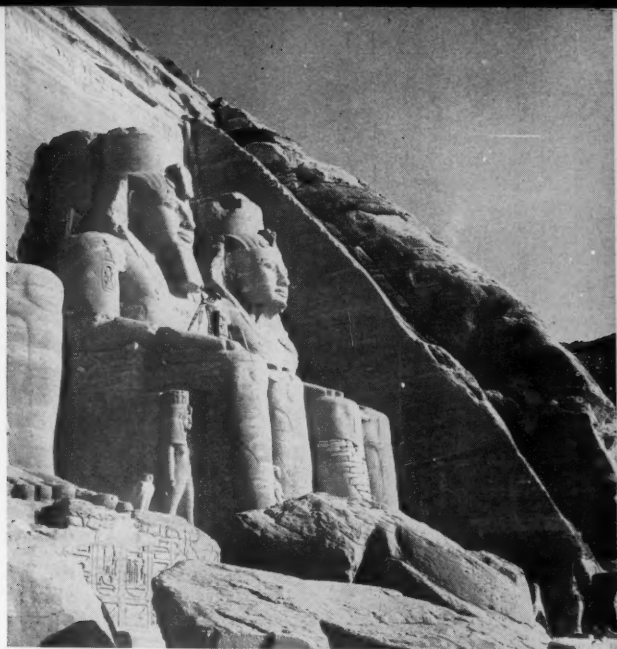
We propose to maintain high standards of scientific integrity in all of these pictures, even though they are not made for the archaeologist but rather as an effective means of interpreting the work of the

scientist to the intelligent layman. It is to be hoped that all of these films will be used in education, but the primary purpose is to evoke wonder in the minds of those who have had little or no scholarly interest in ancient man. If we can evoke wonder we shall achieve the beginnings of true education.

There will be no distortion of major facts to help the story line along, but occasionally we may take poetic license in minor matters. In *Egypt* we show the Hyksos invasion and the turmoil of the First Intermediate Period by using battle scenes painted on the sides of a jewel box of the much later Tutankhamen. In the Greek film we will give the impression that Miltiades' speech at Marathon was directed to all the Greeks instead of, as Herodotus puts it, to the Polemarch alone. Then, too, in the Greek film our narration jumps shamelessly from Pindar to Plutarch to Alcman. But the cumulative effect of an all-Greek narration justifies the time jumps and results in an amazingly smooth flow of words which accurately portray the philosophy of Classical times. Even these liberties will be taken only with the approval of the authorities in the field, with whom we shall be working in all instances.

There will be numerous valuable by-products. The major documentary of each area, produced primarily for the layman, must necessarily be limited to the amount of information that can logically be absorbed in one hour. But more than enough material will be shot to make a series of scientific and educational short subjects on art and architecture. In addition, all scenes will be covered with still pictures in black and white as well as in color.

We believe in the motion picture. We believe that film skilfully blended with well written narration and fine music can render a great service to archaeology. The knowledge won by the patient labors of the scientist can be presented to the general public in a way which will make the ancients seem to live again.



THE COLOSSI OF ABU SIMBEL, in Egypt. Carved from the living rock, these statues which were erected by Ramses II still stand above the Nile. Their size is shown by the figure of Ray Garner, who stands on the lap of one of the statues filming details of the sculpture.

THE PARTHENON. This great temple of the fifth century B.C. will be featured in the film *Greece*, the second of the series entitled *The Ancient World*.



By PELLEGRINO CLAUDIO SESTIERI

THE ANTIQUITIES OF PAESTUM

PAESTUM, in southern Italy, is known the world over for its splendid temples, one of the best preserved and most spectacular monumental groups in the whole Greek world. Hitherto they have been wrapped in mystery: we knew nothing about the divinities worshiped in them, and almost nothing of the city's oldest history. The Greek geographer Strabo, who lived in Augustan times, relates that the town was founded by the Sybarites, who discovered another people already on the site. After the Sybarites' arrival these withdrew to the mountains, and who they were is not yet precisely known. Even the topography of the town is almost unknown, although it

was one of the largest of ancient times. That is not, indeed, an obstacle to the admiration of visitors who suddenly see, after the last curve of the road coming from Salerno, the magnificent structures of the temples rising up before them; the spectacle is so impressive that all the wishes of those who love beauty are fulfilled.

The archaeologist, however, was not satisfied with admiration alone; he needed investigation to discover the origin of the town and to know its life, its art and its cults. Excavations near the oldest temple, the so-called Basilica, brought to light implements showing that a settlement existed from the Palaeolithic age until the



1. Two of the temples at Paestum. At the left the so-called Basilica, oldest of the Doric temples; at the right the so-called Temple of Neptune or Poseidon. Both these temples were actually dedicated to Hera. In the foreground can be seen the new excavations.

• Professor PELLEGRINO CLAUDIO SESTIERI, director of the new archaeological museum at Paestum, was born in Rome in the year 1910. He received the degree of Litt. D. in 1932 and subsequently (1932-1934) was a member of the Italian Archaeological School in Athens. He has held several official posts at Naples and in its vicinity, and has excavated extensively, notably at many Italian sites (Metapontum, Paestum, Fratte and others), but also in Greece (Lemnos, Rhodes), Albania (Butrinto, Byllis and Apollonia) and on the island of Malta.

Iron age when, presumably, the Sybarite colony was founded. The environs were also inhabited in prehistoric times; on the mount of Capaccio, east of the town, are grottoes with palaeolithic remains and less than two kilometers to the north, in a place called "Gaudo," was discovered a Chalcolithic necropolis where magnificent flint weapons have been found and also a sort of "impasto" ware in shapes like those in the Chalcolithic stratum of Troy. The Gaudo necropolis can thus be dated to the late third and early second millennium B.C.

Excavations carried out inside the city, mainly those of 1952, have been rich in results. They revealed that



2. A silver disk inscribed with a dedication to the goddess Hera. Diameter 0.095m. Weight 570 grams.



3. Temples recently unearthed at Paestum. Although only the foundations are preserved, their original appearance can be determined with accuracy.



4. The Temple of Athena at Paestum. Although it is generally known as the Temple of Ceres, recent research shows this name to be incorrect. It was built at the end of the sixth century B.C.

THE ANTIQUITIES OF PAESTUM *continued*

all the central part of the town was originally a great sanctuary. Besides the three famous temples it contained others, all enclosed in a *temenos*, or sacred precinct, flanked by a sacred street. During the Roman period the precinct was made smaller and divided into a southern and a northern sanctuary. To the former belong the two largest temples: the so-called Basilica and the Temple of Neptune (Figure 1). These names were given by eighteenth-century archaeologists who thought that the former was not a temple because of the uneven number—nine—of the columns of the façades (which is an archaic characteristic), the lack of a pediment (which is missing but originally existed), the unusual division of the cella in two aisles and, lastly, because the altar was not yet visible. This, which was uncovered in 1912, is placed, as in all Greek temples, in front of the east end. The "Basilica" is the oldest of the preserved Doric temples; it belongs to the mid-sixth century B.C. Its structure is still very archaic: the columns have a pronounced swelling (*entasis*) almost halfway up and taper sharply at the top; the capitals have a very flat *echinus* like a pillow under a heavy weight—that of the architrave; in addition they are ornamented with a crown of leaves in relief.

The second temple was attributed to Neptune because it was thought to be the oldest (it is a century later than the "Basilica") and also because it is the largest of the Paestan temples. It seemed logical that it should be

dedicated to the god of the sea, Poseidon, to whom the town itself, whose earlier name was Poseidonia, was consecrated. This temple is one of the most beautiful and impressive examples of Greek architecture because of its size—sixty meters long and twenty-five meters wide—as well as the perfection of its construction and its state of preservation. Even today we are able to recognize all its elements: the perfectly preserved floor is made of slabs of Paestan limestone and the columns still support the architrave with its frieze and pediments; inside still stand two rows of columns which divide the cella into three aisles. Above these are two rows of smaller columns which supported the ceiling. We can observe beside the entrance the remains of steps to the wooden gable, to make possible its repair and cleaning. Although this temple is older than the Parthenon, we find in it all the architectural refinements which made the architect of the Athenian temple famous. Moreover, the warm color of the stone gives it a beauty that we appreciate especially at sunset, when the temple seems set on fire.

Now the "Basilica" and the Temple of Neptune are no longer mysterious: we know what divinity was worshipped in them. Their votive deposits have been discovered and in them were many *ex-votos*, including terra-cotta statuettes representing Hera, the goddess of fertility, or women with flowers or offerings, objects in gold, silver and bronze, ivory carvings, Greek and Lu-

canian vases. Among the latter the *gamikoi lebetes*, or nuptial vases, votive gifts of young brides, are numerous. All these offerings evidently relate to the cult of a goddess and, owing to the types of statuettes and the inscriptions, we are now sure that the two temples were dedicated to Hera. Her name is incised on many potsherds but the most interesting inscription in honor of the goddess is incised on a silver disk (Figure 2).

The "Basilica" and the Temple of Neptune were not alone in the sanctuary: eleven others have recently been unearthed, all enclosed in the same *temenos*. All belong to the same cult, that of the Mother-goddess, Hera. Evidently Hera, who had another sanctuary at the mouth of the Sele river, was the most important divinity of the land. The cult of a fertility goddess was a very ancient one, much older than the arrival of the Greeks, who accepted the cult and changed the name of the goddess to that of Hera, their Mother-goddess.

Three of the most recently discovered temples (Figure 3) are of the type *in antis*—having two columns on the front between two engaged pillars—and belong to the fifth century B.C. Another is tetrastyle—with four columns on the front—belonging to the fourth century; and still another had four columns at each end. Naturally, only the foundations or the basement are preserved, but there are sufficient elements for reconstruction on paper. All these temples are of Greek style, with the main entrance on the east side. One has been discovered which faces south; it is of Italic type and belongs to the Lucanian period. But even this was dedicated to the same goddess, and in its votive deposit many statuettes were found representing her. This means that during the Lucanian and Roman periods the cult was highly honored as well as in the Greek period.

Excavations are now in progress north of this sanctuary and of the Forum, where Roman buildings are superimposed upon Greek ones which in many cases have been destroyed. As the work is just starting, we are not yet able to identify the buildings between the Forum and the so-called Ceres temple (Figure 4) but it is clear that originally this part of the town, too, belonged to the great sanctuary, while the site around the Ceres temple formed a second sanctuary where many gods were worshiped, as is witnessed by the votive deposits. One of these deposits showed that the temple was dedicated not to Ceres but to Athena. The clay figurines of the deposit mainly represent Athena wearing aegis, helmet and shield. Votive shields and armor in clay and bronze have

also been found and furthermore an epigraphic document: a sherd of a Roman vase with the dedication in archaic Latin to MENERVA, proving the continuance of the same cult in Roman times. A second deposit, with many statuettes of Venus and Cupid and dancing girls, testifies to the existence of a temple of Aphrodite which has not yet been found.

The Athena temple (formerly assigned to Ceres) belongs to the end of the sixth century B.C. It is a very interesting example of Greek architecture, as it combines the Doric and Ionic styles. The columns of the peristyle are Doric: six on the ends and thirteen on the sides, but the cella is entered through a wide vestibule which had eight Ionic columns. Fragments of their shafts were known, but only during the last excavations were two capitals found (Figure 5). Made of sandstone, these resemble those of Asia Minor of the Archaic period. They are also like one recently found in Marseille (ancient Massalia), a colony of the Phocaeans. Near the north side of the altar of this temple a votive column has been re-erected on its base (see *ARCHAEOLOGY* 7 [1954] 110, Figure 10). It lay on the earth with its drums separated, used in the Middle Ages for building a wall. Its height is exactly sixteen Ionic feet; it is of Doric style and the shape of the capital is more archaic than that of the "Basilica." Now there is a new characteristic element in the Paestan landscape.

At present we know nothing else of Paestum except for the city walls, which form an enclosure 4,750 meters long, and the four gates, two of them well preserved: the Porta Marina with its impressive ramparts and the Porta Sirena, still surmounted by an arch in which was carved a siren—hence the name.

Many important finds have come to light in the en-



5. An Ionic capital from the Temple of Athena, formerly assigned to Ceres. Its archaic form is especially interesting.

THE ANTIQUITIES OF PAESTUM *continued*

virons of Paestum. Besides the prehistoric necropolis at Gaudio many other cemeteries of Classical times have been discovered in the great plain of the Sele. Some evidently belong to the town but others are too far away and may belong to villages founded by Paestum for commercial purposes. Lucanian tombs have been found at Maida, S. Cesareo and S. Nicola. In a place named "Pila" was discovered a Greek grave which contained the bones of a young athlete of the fifth century B.C. as well as six black- and red-figured Attic vases and one bronze strigil, or scraper. One of the vases—a red-figured *lekythos*—is the work of the Athenian painter Brygos, dating from 480-470 B.C., and a second is a white-ground *lekythos* with the representation of an athlete before an altar.

In "Contrada Fravita" a tomb containing seven Lucanian and Campanian vases has been dug and another with painted walls was discovered. This unfortunately was destroyed, but we have been able to restore one wall where a two-horse chariot is represented with the driver and two warriors: it is an interesting example of Italic painting of the fourth century B.C.

Pursuing the survey of the Paestan necropolises, last summer fifteen tombs were dug immediately north of Paestum in the "Contrada Arcioni"; they yielded numerous beautiful Lucanian painted vases, among them many of the Paestan school. In November twenty tombs were explored in the "Tempa del Prete" south of Paestum. Some are of four limestone slabs in the shape of a big chest; sometimes the cover is a fifth slab but in many cases there are two slabs forming a gable (Figure 6). All the slabs are covered with white stucco. Other tombs are simply rectangular trenches dug in the soft limestone rock. Four or five smaller tombs of the two types are children's sepulchers. The grave furniture consisted of vases, almost all Paestan, among them many from the hand or the workshop of Asteas—the greatest Paestan vase-painter of the fourth century B.C.—and bronze girdles, mirrors and fibulae and some silver and gold rings and earrings. Only in the children's tombs were there clay statuettes representing the goddess Hera, a mother with her baby, sphinxes and animals; there were also clay dolls with movable limbs. All the figurines are painted in colors on a shiny white slip.

Around the tombs and inside were a good many Attic black-figured vase fragments; a fine black-figured *lekythos* with a representation of three horsemen was evidently forgotten by plunderers in the corner of a tomb.



6. Tombs recently excavated in the cemetery called "Tempa del Prete" south of Paestum. The one at the left had a cover made of two slabs forming a gable.

It is clear that the graves were originally Greek and were plundered and re-used by the Lucanians. This is shown by a tomb in which was only a heap of bones, evidently belonging to the Greeks first buried in the necropolis. The discovery is important not only for the implements recovered but because we learn that the chest tomb, which was thought to be Lucanian, was originally Greek and is the first step to the chamber tomb.

Paestum has become much more attractive since the opening of the new Museum in November, 1952 (Figure 7; see also *ARCHAEOLOGY* 7 [1954] 111, Figures 11 and 12). In the building are antiquities from the Sanctuary of Hera at the mouth of the Sele, from Paestum itself and from its cemeteries. To the first group belong the metopes of the main temple and of the archaic treasury or *thesauros* (Figure 8). The temple metopes, which date from the end of the sixth century B.C., represent five girls dancing in a sacred ceremony; those from the treasury (numbering thirty-three, originally thirty-six), of the beginning of the same century, are of the highest interest both for the knowledge of the art of Magna Graecia and for the wealth of myths represented: the labors of Herakles, the *Iliad*, the *Oresteia*, legends of the gods. In the showcases are the finds from the votive de-



7. The interior of the new museum at Paestum showing, in the foreground, an archaic treasury and, above and below, cases of vases and figurines from graves and votive deposits.



8. One of the metopes from the archaic treasury on the Sele. Height 0.90m.

posits, mainly clay statuettes of the goddess which represent the development of the Hera type throughout the centuries (Figure 9), and of women bringing offerings, as well as models of pomegranates and lily flowers, symbols of fertility. The same types of *ex-votos*, but with greater variety, have been found in the Hera Sanctuary at Paestum itself. These fine clay statuettes show the goddess not only as Mother, bestowing fertility, but also as *hoplosmia*, bearing a spear. The enthroned goddess is the commonest type (Figure 10) and its development is shown from the oldest period to the most developed, in which the goddess has an air of majesty, holding the *patera* on her right hand and a basket of pomegranates in her left.

The finds from the cemeteries include, in addition to the prehistoric pottery of the Gaudio, fine Corinthian and Attic vases and a magnificent specimen of "Fikellura ware"—a *hydria* (a shape extremely rare in this class of vases) belonging to the mid-sixth century B.C. Other vases, Attic, Lucanian and in some cases Corinthian, are from the votive deposits; noteworthy is a big amphora of the Attic "severe style" attributable to the Nikoxenos Painter. Among the Lucanian vases some are the work of Asteas; the finest is a *gamikos lebes* on which is painted the Judgment of Paris. The wealth of Lucanian vases which have been found in votive deposits as well as in

9. Terra-cotta statuette of Hera Eileithyia found at the Sele sanctuary. Height 0.15m.





10. Terra-cotta statuette depicting the goddess Hera enthroned. Height 0.50m.

tombs makes us sure of the existence of potters' workshops at Paestum.

But the clay was worked not only by potters and makers of common figurines for the little trade in the sanctuary; artists also employed the clay for great sculptures, owing to the lack of bronze and marble. As a result we have fragments of important statues. The most interesting, almost wholly preserved, is that of a seated god, almost certainly Zeus. This, probably together with one of Hera, must have been worshiped in an ancient temple of the sanctuary. The god is seated on a backless throne; he wears a clinging yellow *chiton* and a red *himation* edged with a dog-tooth design of alternating red and black, and a meander motif at the bottom. The coloring is largely preserved: the face is red while the beard, in slight relief, is black; the stylized mustache is painted on; the hair falls on the back in large locks with pointed ends, and over the shoulders in strings of oval pearls. On the head was a crown with bronze leaves, some traces of which are preserved. The hands, which were outstretched, probably held the *patera* and scepter. It is a local creation, of prime importance to our knowledge of the art of Poseidonia, which shows Ionic influence and can be placed in the third quarter of the sixth century before Christ.

Although rare, marble was used, or at least marble works of art were imported. One of the gems of the Museum is a female head in Greek island marble, an Italiot product of about 480 B.C.; there is no reason why it could not have been the work of a local sculptor. It was designed for insertion in a metope of a different material, probably sandstone.

Surely imported and evidently Ionic, of about the mid-sixth century B.C., are two series of small ivory relief plaques. One portrays sacred games, athletes running and armed dancers; the other consists of four tablets bearing various scenes, which originally adorned a small casket: fabulous animals, a flying man and a man drinking while reclining on a couch. There are also other delicate works of art in ivory: a small (0.03 m.) lion in which the details of the mane are as finely treated

THE ANTIQUITIES OF PAESTUM *continued*

as in a large statue, and two exquisite statuettes representing the goddess Athena struggling with the giant Enceladus (Figure 11); these date from the second century B.C.

Besides the ivories there are fourteen small bronzes, almost all Archaic, among them two sphinxes and two *kouroi*. There is also a remarkable pentagonal antefix on which are painted in red and white a goddess and a giant anguiped, struggling; the date may be set at about 460 B.C. Probably this antefix belongs to a missing series representing the Gigantomachy. In any case it is a rare example of fifth century Greek painting in a medium different from vases and it is one of the most important pieces in the Museum.

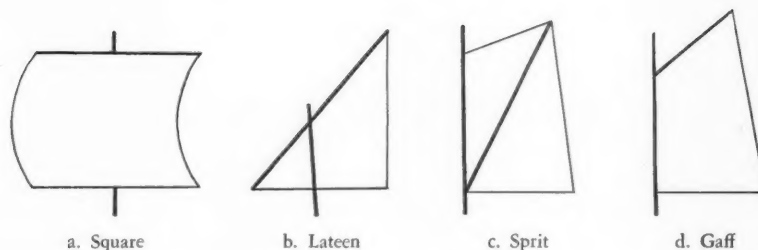
Very typical is the deposit of the Italic temple. Originally it belonged to an older temple of which parts of the architectural decoration have been found, and it contains votive material both of the first and of the second temple. At both stages Hera was the goddess worshiped but in the second (Lucanian) period many of the *ex-voto* offerings were of a crudely realistic type. For the older period we find the type of the goddess enthroned, to which at the end of the fifth century B.C. is added that of the *kourotrophos* which recalls certain Madonnas of the Italian Renaissance. The cult of motherhood is displayed to even greater effect in this deposit by many fictile uteri and by curious representations of the lower half of the female torso, swollen as in pregnancy. These symbols of motherhood were used by Italic mothers to place themselves under the goddess' protection; they are far from the delicate idealization of Greek art.

Other exhibits include Phoenician glass pastes, carnelian gems, fragments of gold crowns and gold jewelry, and many coins, among them very fine incuse medals from Poseidonia and other cities of Magna Graecia.

This is only the beginning. We now know some of the main cults of Poseidonia and a little more of the city's art and history, but we hope that new finds inside the walls and in the necropolises will enable us to unveil the mystery of its origins.



11. Ivory figures of the goddess Athena and the giant Enceladus. Note the gold details on Athena's breast and arm. These exquisite statuettes date from the second century B.C. Height 0.06m.



1. Types of sails found in the western world.

The Sails of the Ancient Mariner

By LIONEL CASSON

Associate Professor of Classics, New York University

LOOK OVER any yacht harbor or shipyard today and you will see a bewildering variety of sailing craft. Endlessly different shapes, sizes and colors strike the eye. Look carefully at the sails, however, and you will notice a singular uniformity: they are all of the same basic type, a sheet of canvas running from the mast along the length of the boat towards the stern. Seamen call this type the "fore-and-aft" rig. It is standard on all small sailing craft in America and most of those in Europe. There is nothing mysterious about its popularity. Sailing with the wind has never been a problem for the mariner. The challenge arises when he must make his way against the wind, and the fore-and-aft rig is the finest ever devised for this purpose.

There is no question that the seaman of the ancient world knew the art of sailing against the wind. Sailing conditions in the Mediterranean are such that every ship which made its way from eastern to western waters,

from Egypt or Palestine or Asia Minor to Rome, had to slog it out in the face of the wind for most of the voyage. Perhaps the art was first learned in Egypt. This is a country blessed with a waterway that permits easy two-way traffic: the Nile current flows north and the prevailing wind blows toward the south. It is very possible that thousands of years before the Christian era Egyptian sailors, while drifting down the Nile, learned to set their sails at the proper angle to catch the wind that was blowing against them and thereby to help themselves on their way.

But the ancients did more than merely discover how to sail against the wind. It can now be shown that they were the creators of the fore-and-aft rig, the sail *par excellence* for this sort of travel. There are two principal varieties of this rig, the "lateen" type, and the type which has fathered the sails of all our modern boats. Up to now neither has been thought to come from the

Mediterranean of Classical times. The lateen has been considered an Arab invention, while the other has been ascribed to north European sailors of the fifteenth century. We are now in a position to restore credit where credit is due: the fore-and-aft rig was in use in the Mediterranean centuries before the heyday of the Arabs and over a thousand years before its appearance in the north.

Figure 1 shows line sketches of the various kinds of sails found in the western world. Let us briefly review their history.

The oldest and most important is the square sail (Figure 1a). It has been used on all sorts of boats since the day when man first took to the sea. Square sails brought the Greek fleet from Aulis to Troy, carried the Phoenicians the length and breadth of the Mediterranean, powered the lumbering ships that yearly transported thousands of tons of grain to feed Rome (Figure 2); they brought Columbus' Santa Maria across the Atlantic, caught the wind for Nelson's men-of-war, and finished a long career with a blaze of glory in the remarkable voyages of the famous American clippers of the nineteenth century. The square sail is without a peer for voyages, especially long ones, made with a following wind. It offers every inch of its rectangular surface to the thrust of the wind, the vessel rides comfortably and safely, and the canvas needs a minimum of handling.



2. A large merchantman with its square sail bellying before the wind. Carved on a sarcophagus from Sidon probably of the second century A.D. Ships like this no doubt carried bulky cargoes such as grain across the open sea to Rome.

3. Tombstone of Alexander of Miletus showing a small boat with lateen sail. Second or third century A.D. National Museum, Athens.



For these reasons the builders of larger sailing craft designed to travel long distances have never permitted any rival to challenge it. But the square sail is not perfect. Its most serious defect is its inefficiency in a course against the wind. In particular, the small craft used for short runs where all sorts of wind conditions were encountered felt the need for a more flexible type of sail. To fill this lack the fore-and-aft rig came into existence—passably effective when the wind came from behind, at its best with a wind blowing from ahead.

Figure 1b shows what has up to now been considered the earliest form of this type of rig, the "lateen." Note how the sail, although hung on a spar and not made fast to the mast as in modern rigs, sits lengthwise in the boat, runs from "fore" to "aft." Because this sail has always been a favorite among the Arabs, most writers on the subject hold that it was they who introduced it to the Mediterranean, although some speak of a Far

The Sails of the Ancient Mariner continued

Eastern origin. Over a hundred years ago, however, one of the greatest historians of ships and the sea expressed a different opinion. Auguste Jal was the official historiographer and archivist for the French Navy during the whole of the reign of Napoleon III. His *Glossaire nautique*, published in 1848, is a monumental work which is still one of the most consulted reference books of nautical history. In this work, in the section on the lateen sail, Jal expressed his strong conviction that the ancients knew this type of sail—and his equally strong regret that he could not prove it conclusively.

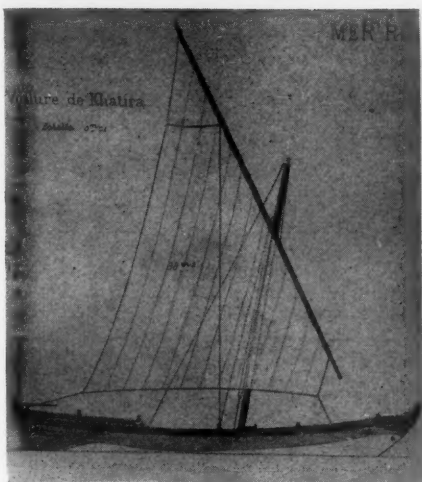
Here is the proof that Jal lacked. Figure 3 shows a

tombstone that commemorates a fisherman who was born in Miletus, in Asia Minor, in the second or third century A.D. and died in the vicinity of Athens. He is shown with his son in his boat which has—there is no question about it—a lateen sail. The form it has in this ancient relief has been kept ever since without significant changes. Figure 4 shows how it appeared in the twelfth century and Figure 5 shows its appearance in the nineteenth. The same sail is still to be seen in any Mediterranean harbor, especially in eastern waters.

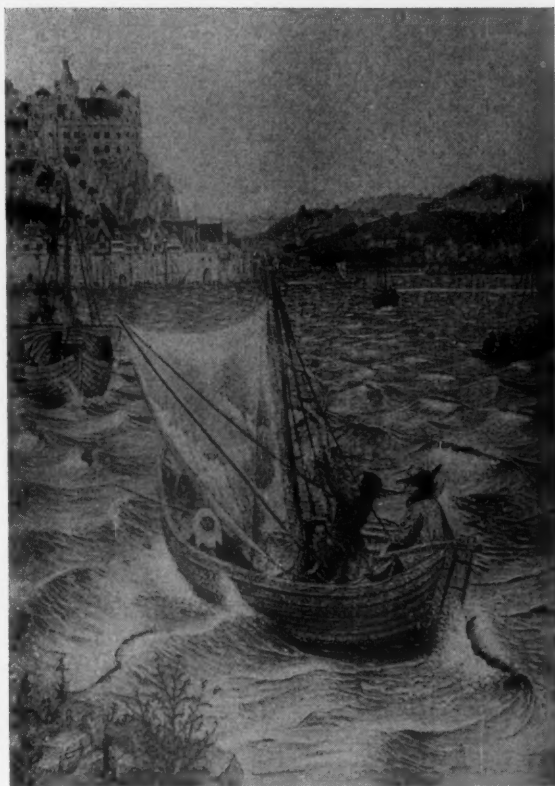
But the story of the ancients' contribution to the art of sailing does not stop with the lateen. Let us turn to



4. Small boat with a lateen sail from a twelfth century mosaic in San Marco, Venice. St. Mark is being carried to Alexandria where tradition has it he founded a church and ultimately died. The costumes and boat are, of course, contemporary.



5. Plan of a modern Arab boat with lateen sail used in the Red Sea. From F. Paris, *Souvenirs de marine. Collection de plans ou dessins de navires et de bateaux anciens ou modernes existants ou disparus*, Part 1 (Paris 1882) No. 56.



6. The Voyage of St. Julian, a miniature (now destroyed) by Hubert Van Eyck from the Turin Book of Hours. The vessel is shown traveling before a favorable wind.

Figure 1c, which shows a spritsail. As the ancestor of the sails our small craft use today, it is of especial interest to us. Here, as in modern rigs, the sail is made fast to the mast and merely supported by a spar, in this case one that runs diagonally across the surface of the canvas. The earliest example that nautical experts have been able to find of this type is in a miniature from the hand of the Flemish painter Hubert Van Eyck (Figure 6) which dates about 1416. And since the rig is not found in the Mediterranean until over two hundred years later, they have concluded that northerners brought

The Sails of the Ancient Mariner continued



7. Small boat with spritsail. From an unpublished tombstone of the second or third century A.D. found in Salonica and now in the archaeological museum there. Photograph courtesy of Dr. Ch. Makaronas, Ephor of Antiquities.

8. Gravestone of Demetrius of Lampsacus showing a small boat with spritsail. Second or third century A.D. Archaeological Museum, Istanbul.

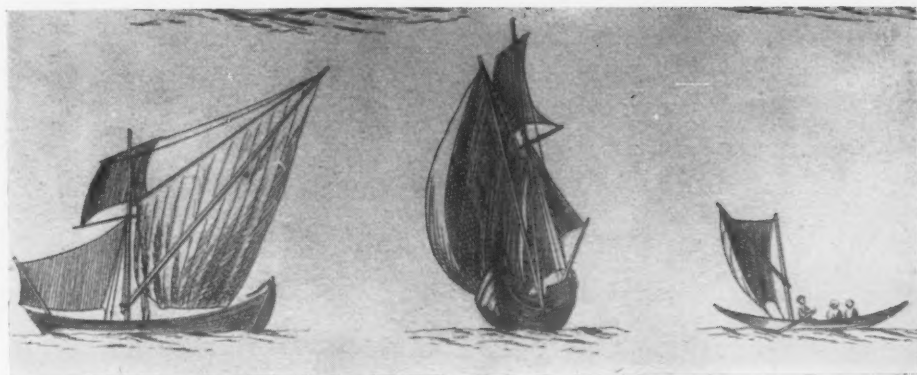


it there, probably at the end of the sixteenth century. They are, as we shall show in a moment, almost a millennium and a half wide of the mark.

Figures 7, 8 and 9 are taken from ancient tombstones which may be dated to the first three centuries of our era. They come from widely separated areas: the grave-stones of Demetrius of Lampsacus and Peison of Cratea are from Asia Minor, the third from northern Greece. Note the rig that they show: a spritsail in every case. In Figure 7, where a vessel is portrayed getting under way with the sail on the port side, the diagonal spar is fully visible. In Figure 8 a boat is bowling along smartly against the wind; although the sprit, being on the un-



9. Detail from the gravestone of Peison of Cratea. First or second century A.D. Note the second, smaller sail, a very unusual feature. Archaeological Museum, Istanbul.



10. Sketches made in 1855 and 1856 of various Turkish craft in the harbor of Istanbul illustrating simple and complex forms of the spritsail rig. From Paris, *Souvenirs de marine*, Part 2 (Paris 1884) No. 77.

derside, is not visible, the set of the sail gives away its presence. Figure 9 is even more interesting, for it shows a unique addition that reveals the ingenuity of the ancient sailor. Here we see a second sail which, so far as I can judge, is designed to increase the effectiveness of the rig with favorable winds, thereby eliminating its one drawback. With the main sail swung out over one side of the boat and the smaller over the other, a surface would be presented to a wind blowing from behind almost as great as that provided by a square sail. The picture will become clear if you visualize the boat in Figure 6 with a second sail run out on the right side. Figure 10 presents some modern examples of the spritsail rig. The small

boat at the right is carrying practically the same sail that appears on our ancient gravestones.

The basic types of sail, then, were all known to the seaman of Graeco-Roman times. He passed on to the later world not only the square sail but the lateen and spritsail as well. The only one we cannot ascribe to him is the gaff-rigged sail (Figure 1d). This, like the spritsail, has always been considered a northern invention of quite late date, probably the seventeenth century. Yet I should not be at all surprised if one of these days the archaeologists were to turn up a tombstone showing even that type of rig, to make the ancients' contribution absolutely complete.

• In this, the second and concluding section of Mr. Stumer's account of exploration and reconnaissance in the Chillón River valley of the Central Coast of Peru, will be described the excavations at the Cerro Culebra site. It was here that most of the actual digging occurred and the most spectacular finds of the Marquez series of excavations were made. The first section appeared in *ARCHAEOLOGY* 7 (1954) 171-178.

Part 2:

THE CHILLÓN VALLEY OF PERU

Excavation and Reconnaissance 1952-1953

By Louis M. Stumer



THE CERRO CULEBRA (Hill of the Serpent) site on the Hacienda Marquez (see Map, Figure 1) was selected from surface reconnaissance and examination of aerial photographs because it appeared to carry on the culture sequence that had been established in our first excavations, at Playa Grande (*ARCHAEOLOGY* 6 [1953] 42-48). The Cerro Culebra excavations became the second of a projected series of three. The third, at Vista Alegre in the Rimac valley, is scheduled for 1954. It is hoped that these three digs will give us the sequence from the middle of the Formative epoch well into that of Great Fusion, for Central Coast sites at any rate. The earlier part of this sequence, from Chavinoid to Playa Grande, has been giving us trouble because of our inability so far to find a site of a transitional period. Perhaps the current year's work may fill this need but so far no sites of that period have come to light in the Chillón or Rimac valleys, and we may have to search farther in some of the more remote Central Coast valleys.

Cerro Culebra is located on a barren plateau on the north bank of the Chillón less than a mile from its mouth. There is an extensive view of the ocean from practically all parts of the site, which extends almost a kilometer from east to west. Its usual width is less than two hundred meters. Beginning at the western edge, the site consists of three burial plots, an unplanned and sprawling living area, two more small burial plots and, at the eastern end, a large pyramid-temple complex surrounded by patios, terraces and subsidiary compounds.

Six cuts were made at the site, numbers one and five being merely test pits. Number two produced eight burials, six being of children (Figures

2, 3). These burials were similar to those at Playa Grande in the matter of ceramics (Figure 5), form of burial, burial in small lots rather than large cemeteries, basketry and textiles. A number of stone-lined storage pits were also excavated, providing a large quantity of corn suitable for Radiocarbon 14 testing. It was found that the poorer dwellings at Cerro Culebra had the same "wattle and daub" construction as those at Playa Grande. Two examples of urn burial were encountered among the child graves: one is an undecorated, fire-blackened cooking olla; the other is a fine example of a large decorated mammiform jar. The neck of the jar had been struck off to accommodate the wrapped body of the infant.

Cut Three proved to be more complicated and interesting, since it involved the clearing of the major portion of an important dwelling of the Playa Grande culture. At the same time another house of an earlier type from the same culture was disclosed and investigated; of the accompanying grave plots, the later one was thoroughly excavated and the earlier "spot checked." It was interesting to observe the difference between the poorer class dwellings, both at Playa Grande and at Marquez, and the comparatively elegant house in Cut Three. The basic construction material was tapia, which was used for all weight-bearing walls. Most partition walls were of small to medium sized adobe bricks, both hand- and mold-made, although a few were of uncut stone with clay binder. Noteworthy among these walls was a small semicircular enclosure off one of the main rooms, adjacent to a hearth, which looked as if it had been a pen for guinea pigs, still one of the staple items of the Andean Indian diet. Also near the hearth were several well made circular storage pits; one contained a quantity of well preserved "anchovetas," a local sardine-like fish, while another was well stocked with corn and peanuts.

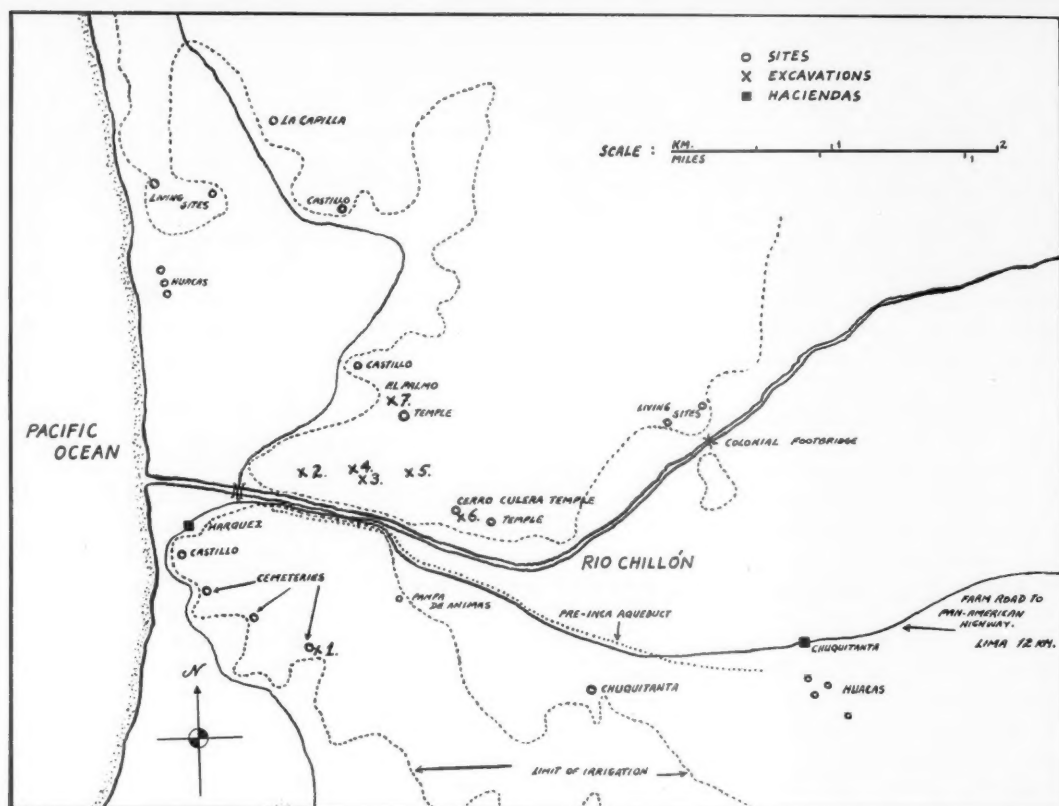
The method of house construction was to make the tapia outer walls about breast high, and then to sink circular holes in their tops at regular intervals. Into these were set beams of the willow wood indigenous to these river valleys, which were firmly anchored in place with wet clay. The beams had forked upper ends which supported the lateral roof members (heavy canes). The roof covering, of closely laid light cane, was placed longitudinally on top of these. In this climate, where rain is virtually unknown, this was all the protection necessary against the elements; the space between the roof and the tapia walls provided ample ventilation during the hot summer months. The roof was crowned by an ornamental cornice painted in alternating stripes of clear yellow and light gray. There was a "loggia" of

low tapia walls, again crowned by the same roof construction, facing an adobe-walled patio in which were an open-air hearth, a garbage dump, and the family burial plot!

Cutting through the well packed and finished clay floor of this dwelling, we encountered the outer walls of an earlier house. The chief difference in architectural style was that all main walls of this earlier construction were made of adobe bricks (Figure 4), not tapia, and the enclosure for guinea pigs had a well made fence of woven canes. The adobe bricks were similar in size and style to those of the partition walls of the later dwelling, consisting of an almost equal mixture of hand- and mold-made bricks. It is difficult to differentiate between these early Central Coast adobes, as the molds used must have been of some rather resilient substance such as leather which allowed hand impressions to show through, although not nearly so clearly as in the hand-made type. The shape of both kinds of brick is the same, roughly that of an old-fashioned loaf of bread, having flat sides and bottom and a rounded top.

Only a small portion of the underlying house was excavated, since when its adjacent burials were checked, there was no question of its period and further digging would have severely damaged the structure above. It did, however, provide additional evidence of the burial pattern for the entire culture, small family plots immediately outside dwelling sites. The grave orientation is almost invariably north-south with the head to the south. Extended burial is general, and face-down burial with a wooden and cane litter on top, first noted at Playa Grande, is also common at Marquez. In all, twenty-three tombs were excavated at Cut Three, nineteen in the patio of the upper house and four in the front courtyard of the lower. A strange thing came to light in the excavation of the upper dwelling. In three instances, while clearing doorways we found the wrapped body of an infant or very young child, complete with miniature litter, not in a grave, but merely placed on the floor of the doorway. I shall not attempt to speculate on the significance of this startling and unsanitary custom.

Cut Four was made in another small cemetery plot about a hundred meters from the edge of the patio at Cut Three. Whereas the tombs at Cut Three contained the usual amount of ceramics (Figure 6) and other artifacts of the Playa Grande culture, those of Cut Four almost uniformly yielded only the sparsest cultural and diagnostic objects. In fact, had it not been for the now typical form of extended litter burial, identification of these poor graves would have been difficult. The plot contained seventeen graves, which produced ex-



THE CHILLÓN VALLEY OF PERU CONTINUED

actly two restorable ceramic vessels (Figure 7). A number of rather good spindle whorls were found, however, as well as a necklace of amethyst and mother-of-pearl. In addition, miniature unfired clay vessels such as those first encountered at Playa Grande were also in evidence. The ornithotropic aspect of the Playa Grande tombs, where gayly plumed macaws were buried with their owners, is also encountered at Marquez, although it is by no means so pronounced. This may well be because no graves so rich as those at Playa Grande were found at Marquez. Perhaps when the tombs of the high priests of the temple of Cerro Culebra are located we may see a glow of Amazonian plumage heretofore unequalled. The main value of Cut Four was to provide us with a good series of skeletal material for anthropological analysis, which is now being carried on in Lima.

Cut Five was in a small dry canyon or "quebrada"

some two hundred meters northeast of Cut Three. This was a test pit which disclosed nothing more than a llama burial of the Chancay period with associated ceramics and artifacts. We then proceeded some five hundred meters eastward to the site of the temple of Cerro Culebra. We had actually been working steadily from west to east with the exception of the slight detour for Cut Four.

Cerro Culebra temple had been identified earlier from aerial photographs and many surface investigations had been made during the progress of the Playa Grande diggings as well as the work at Marquez. The temple site itself was in a rather poor state of preservation, the result of erosive action of sand-bearing winds rather than activities of grave robbers. The entire temple area, however, was littered with potsherds of Middle and Late Playa Grande types, and the top of the main pyra-

1. Map showing archaeological sites at the mouth of the Chillón River on the Central Coast of Peru.

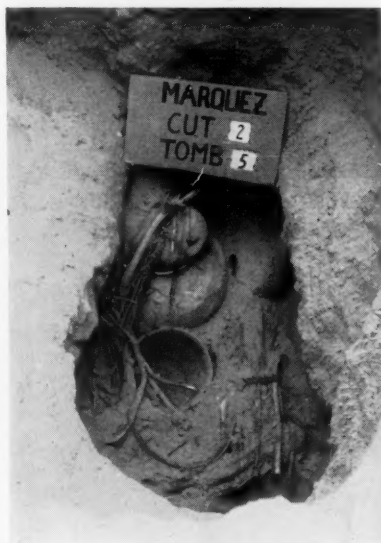
2. A child's tomb at Cut 2, Cerro Culebra, showing ceramics, basketry, and bundles of twigs placed above the body.

3. Another child's tomb at Cut 2 with most of the grave offerings removed, showing the typical cane litter of the Playa Grande culture burials. The body is below this, extended and face down.

4. An adult burial at Cut 3, Cerro Culebra. This grave pertains to the earliest occupation of the site and is associated with the adobe architecture at the top of the photograph. The practice of placing large potsherds or halves of broken utility vessels over the head of the deceased is a fairly common one. The customary litter can be seen below.



4



2

3





5a



5b



5c

5. Ceramic vessels from graves at Cut 2, Cerro Culebra. Approximate heights: (a) 15 cm.; (b) 7 cm.; (c) 15.5 cm.

6. Ceramic vessels from Cut 3, Cerro Culebra. The large cylindrical vessel is typical of this often encountered form. Approximate heights: (a) 19 cm.; (b) 12 cm.

7. One of the two restorable vessels found in Cut 4, Cerro Culebra. The form is decidedly atypical, and the decorations suggest those of the Maranga culture. The paste is, however, pure Playa Grande. Approximate height: 29 cm.



6b



6a

FIGURES 5-7 BY A. GUILLÉN

mid disclosed fairly numerous sherds of the Maranga style. This style, which is often confused with the Playa Grande, has been considered by some as following it in the chronological sequence for the Central Coast.

We decided to clear a small lateral strip through the center of the principal temple quadrangle in order to understand more clearly the architecture of the pyramid. The ground plan was, in the main, easily grasped from the aerial photographs, but the temple itself was so covered by loose sand and crumbled tapia that it was impossible to ascertain whether it had been a plain or stepped pyramid or some combination of the two. Also, there were on top some vestiges of massive tapia construction which did not appear to be contemporary with the Playa Grande ceramics scattered about, and it was necessary to investigate this as well. Accordingly, we began to clear away the floor of the quadrangle, pitching the rubble down the sides, intending to end up with a completely cleared strip about five meters wide, with the excavated earth piled at the foot of the pyramid on either side of it.

The temple enclosure of Cerro Culebra is trapezoidal in form, 250 meters from east to west and 160 meters from north to south at its greatest extent, 125 at its smallest. This area consists of terraces, courtyards and

patios, with the pyramidal structure, also trapezoidal in plan, at its center. The pyramid measures 65 meters east-west and 40 meters north-south at the western end, 30 meters at the eastern. Its height varies between 12 and 15 meters. Thus we planned to have two dump piles in the north and south patios.

The first thing ascertained was that the north face was stepped, consisting of small steps of the type found in the oldest sections of Pachacamac. A wide monumental staircase led up to and was associated with the massive tapia construction at the top of the pyramid. When this and the interior floor of the quadrangle had been cleared, it was plainly seen that the stairway and superstructure overlay, and were subsequent to, the main pyramid construction. Consequently, it would be necessary to remove the later structure in order to examine the main pyramid. For this we did not have the requisite official permission, and waiting for a permit would have entailed more time than we had at our disposal. We were therefore rather at a loss as to how to proceed. I observed that there was about an inch of a wall projecting above the surface. It appeared to be a secondary wall paralleling the east-west inner wall of the quadrangle; it actually was the main wall of the inner quadrangle of the original temple. At this point, in my slightly frustrated state, I kicked at the sand on the inner side of the wall, which fell away, revealing flashes of vivid red, white, and black paint on the wall itself! This put a very different face on matters, naturally, as wall paintings are quite rare on the Central Coast, especially in a good state of preservation. We immediately made plans to clear the paintings by digging a narrow trench from which they could be observed, photographed and traced with a minimum of damage to the tapia structure superimposed upon them at several points.

Digging the trench and carefully cleaning the painted portion of the wall occupied a period of some six weeks. Although it appeared that about one-third of the wall had been cut off to accommodate the constructions placed above, the remainder was in excellent shape, extending in some areas to two meters from the top of the wall to the bottom of the paintings. In all, twenty-six meters of fresco were cleared, and it proved to be the most complex and well preserved wall painting yet found on the Central Coast. The task of clearing was not an easy one, since the people of the later occupation had obviously decided to utilize this wall as a weight-bearing member for the tapia above, and had consequently built retain-

7





8

8. The temple of Cerro Culebra with panel 2 and a portion of panel 3 in the foreground, and the irrigated area of the Chillón valley and the surrounding hills in the background.

9. Detail of panel 3, temple of Cerro Culebra. The tapia fragments and canes on top of the wall are remnants of the roof.

10. A portion of panels 3 and 4 at Cerro Culebra temple. One of the adobe retaining walls can be seen in the left foreground.



9

FIGURES 8-10 BY PAMELA ROLSTON



10

ing walls at right angles to it at intervals of two to three meters and then had filled up the spaces between. The fill ranged from soft sand through puddled adobe, discarded adobe bricks, and tapia blocks, to heavy river cobbles, which were especially difficult to remove not only because of their weight but also because of the danger of damaging the painting. Demolition of sections of the retaining walls abutting on the painted surfaces was also ticklish work, since these were generally anchored to the paintings by clay mortar.

When, however, the work was complete, the plan and technique were clearly revealed. The paintings are technically close to fresco; a fine wet yellow clay slip had been applied to the basic tapia wall. Besides the yellow, seven other colors were encountered, black, white, brown, purple, orange, and two distinct shades of red. The entire southern longitudinal wall showed the following scheme. Of its sixty-five meters of length, the two end sections (approximately twenty meters each) were a plain clear yellow, while the center section of twenty-six meters was occupied by the design. While it was impossible at the time to check the other three walls of the quadrangle, I consider it most likely that this scheme is followed there also, and that three other central painted panels are awaiting excavation. There had originally been a roof of some sort over the paintings, as is shown by fragments of painted tapia found on the clay floor associated with the frescoed wall. These were cane-marked in a way that shows they had been placed over the top of the wall, possibly to preserve the

main paintings which are in perishable vegetable colors. The roof designs appear to have been simple, well executed geometric motifs in yellow, red, black and white. In its original state the whole quadrangle must have presented a most colorful sight.

The paintings themselves consisted of six sections, each roughly four and one half meters in width. The sections are separated by themes, not by any painted division (Figures 8-10). The three easternmost sections are representations of a highly simplified and geometric anthropomorphic or feline head. The first two show this ugly "deity" surrounded by stylized serpent attributes. The second section shows the god's serpent arms; the serpent heads are his hands. In the third section he is in the center, surrounded on all sides by smaller heads symmetrically arranged, perhaps representing trophies. The three remaining sections are less geometric and simplified; they make use of more colors and are more difficult to interpret. The first has a central anthropomorphic standing figure, its arms upraised, holding a trophy head in each hand. This being is flanked by a lizard or fish and various obscure geometric figures. The next section is badly damaged and only some geometric figures can be identified. The final panel has an anthropomorphic or feline face flanked by a balanced design of attributes. These appear to include a serpent or fish motif and are especially interesting since they alone use curved lines. We may assume that two artists were at work here simultaneously, as the first three sections differ so greatly from the last three. The preparation of

the surface, colors used, composition, execution and feeling are different, and finally, the right hand artist had to compress the left half of his first panel to avoid lapping over onto his colleague's work. "Right hand" is much more inventive, less neat, and definitely less sure of his composition, design, and color handling; while "left hand" knows exactly what he is doing all the time. It almost looks like a prehistoric version of "traditional" and "modern."

One thing stands out in an analysis of the paintings as a whole: that is their relationship with the art of the Callejon de Huaylas, an intramontane civilization some 250 kilometers distant from Cerro Culebra. This culture, known as Recuay or Copa, has been placed in the Regional Florescent epoch, which aids us in dating the Cerro Culebra frescoes. The serpent motif, so strong at Cerro Culebra, is almost identical in treatment to that on the ceramics and stone sculpture of Copa, as is the figure holding the trophy heads. The serpent motif is most important on the Playa Grande and Marquez ceramics as well. At this point one can only speculate on the significance of this relationship, and much more work needs to be done in order to explain it. However, it would seem logical, considering the distance between Cerro Culebra and Copa, that another such ceremonial center should exist somewhere in the intervening territory, and we intend to make a thorough search for it in the seasons to come.

Additional facts were gleaned from this excavation, including the attribution of the basic structure to the Playa Grande culture, and of the overlying massive tapia construction to the Maranga. A prominent characteristic of the Maranga civilization is the prevalence of massive pyramidal ceremonial centers, and it appears as if an attempt had been made to transform the less advanced, more delicate basic architecture of Cerro Culebra into one of these. The underlying construction associated with the frescoes was found to be of the same type as that of the house at Cut Three: tapia weight-bearing walls, partitions of hand- and mold-made adobe bricks.

We reluctantly left the central quadrangle after covering the frescoes once again with soft sand in order to preserve them for the present. We then resumed our search for a rubbish heap suitable for stratigraphic analysis. In this we were unsuccessful, since the refuse here appears to be generally scattered about, with no discernible concentrated middens. We did, however, make controlled cuts in the rubbish overlying two patio floors, which established the fact that the Maranga ceramics ap-

peared only in the uppermost level, and that beneath this all was pure Playa Grande. The floors themselves were cut, but beneath them was undisturbed sterile sand. This terminated our digging at Cerro Culebra proper.

The foregoing, together with the article in the previous issue of *ARCHAEOLOGY*, is a general summary of our excavations and reconnaissance in the Chillón. The primary result was to establish the culture sequence shown in the accompanying table, which partially fills a gap in our knowledge of the chronology of the Central Coast. When this chronology is complete, we shall be able to pay more attention to the varied cultural aspects of the region and the problems posed by such manifestations as the frescoes at Cerro Culebra with their evidence of influence of a far distant culture in times long past. In the meantime, however, it is to be hoped that the analysis now under way of the many specimens obtained will give us tangible clues toward the solution of these and many other archaeological problems still remaining unsolved in this region.

Culture Sequence for the Chillón Valley

Culture	Typical Sites
INCA-CHANCAY	Pampa de Animas, Zapan, Infantas
CHANCAY	La Capilla, El Palmo
TIAHUANACOID III	La Capilla, El Palmo
TIAHUANACOID II	El Palmo, Infantas
TIAHUANACOID I/TEATINO	El Palmo
MARANGA 2	Cerro Culebra, Cocayallta
PLAYA GRANDE 3	Cerro Culebra
PLAYA GRANDE 2	Cerro Culebra
?	
INCIPIENT AGRICULTURE	La Capilla "A"

• JOHN HOWLAND ROWE majored in Classical Archaeology at Brown University and did graduate work at Harvard University and the University of Paris. He received his Ph.D. degree from Harvard in 1947 in Latin American History and Anthropology. He has done archaeological field work in the United States, in Maine, Massachusetts and Florida; and in South America, in Colombia and Peru. He has taught at the National University of Cuzco, Peru, and the University of The Cauca, Popayán, Colombia, and is now Associate Professor of Anthropology and Associate Curator of South American Archaeology in the Museum of Anthropology at the University of California, Berkeley.

Archaeology as a career

By JOHN HOWLAND ROWE

This essay is based on a circular which the author prepared for use at the University of California, Berkeley, to answer the periodic inquiries of students. The present version has profited by comparison with circulars on the same subject put out by the Chicago Natural History Museum and the University of Chicago. The former was kindly furnished by Donald Collier, the latter by its author, Robert J. Braidwood. Valuable suggestions for revision were received from Irving Rouse, Richard B. Woodbury, Gladys D. Weinberg, Robert F. Heizer, Jotham Johnson and Mrs. L. Earle Rowe. To all of these friends and colleagues grateful acknowledgement is made.

ARCHAEOLOGY is the study of man's past in the broadest sense, and it is the archaeologist's aim to reconstruct as much of that past as possible. For this purpose he uses the evidence of written history, the material remains of human activities that have survived destruction and any inferences that can legitimately be made from the study of languages and of later or present day human cultures. Archaeologists devote the major part of their attention to recovering and interpreting the material remains of human activities because these remains can give them much valuable information about the daily life and interests of the people they are studying. Indeed, in dealing with periods and places in which written records were not abundant, there is usually no other evidence available for a reconstruction of cultural history.

As we have noted, archaeologists use any historical evidence which is available and combine it with what they can learn from material remains. Archaeologists who plan to work in areas with a long historical record usually find it desirable to learn the historian's techniques and to acquire an intimate familiarity with the historical literature on the region to be studied. This procedure involves learning the languages and writing systems in which the historical source materials for the area are written, so that the archaeologist will not have to depend on other people's interpretations of these materials in his work. Archaeologists have a somewhat different viewpoint from that of most professional historians, however; they are more interested in the interrelationships of the written record with the material remains and in reconstructing daily life and customary behavior. They have more in common with cultural and institutional historians than with students of political or diplomatic history.



Archaeology as a career continued

WEEKEND ARCHAEOLOGY: a group of students and amateurs excavating an American Indian site at Sudbury, Massachusetts, in 1941. The work was sponsored by the Massachusetts Archaeological Society and directed by Dr. Hallam L. Movius of Harvard University, an archaeologist whose major interest is Old World prehistory.

Archaeology shares its interest in the material remains of human activities with the field of art history, and it is very desirable for people working in each of these fields to be acquainted with the methods and point of view of the other. The two fields are not identical, however, but differ in their subject matter and research methods. In subject matter art history restricts itself to works of art, while archaeology is concerned also with common objects of everyday use. When an archaeologist is trying to reconstruct the life and customs of some earlier period, a broken cooking pot may give him invaluable evidence and prove as interesting in its own way as a statue or a bronze vase. In research methods art historians concentrate on studying the style of objects and do most of their work with specimens in museums and private collections, except when they are studying architecture. Archaeologists study individual objects also, but they are equally interested in the relationship of one object to another in the ground and hence do a good part of their research in the field, making excavations in which they can observe this type of relationship. It is important evidence for dating and for inferring the use of the objects.

The distinction between archaeology and art history is perhaps least clear in the field of Classical archaeology where traditionally the same people have done both types of research. This situation is not surprising, for in the Classical field archaeology grew out of people's admiration for Greek art.

In a general classification of research fields archaeology is logically a branch of anthropology, the latter being the discipline concerned most broadly with the study of people and their behavior. In American universities archaeology is often taught as part of anthropology, and archaeological collections in general museums are under the care of an anthropology department or division.

This connection is a thoroughly satisfactory one from the point of view of the archaeologists concerned, since they find the broad comparative viewpoint of anthropology stimulating and helpful. Indeed, in that part of its work which is concerned with reconstructing ancient life and customs, archaeology is wholly dependent on general anthropological theory and the results of anthropological studies of the life of living peoples.

There are a number of special areas, however, the archaeology of which is usually not taught in an Anthropology Department. These are Greece and Rome, the Near East (including Egypt) and sometimes China. The areas named have abundant historical and literary records in languages rarely studied except by specialists. Special departments are usually devoted to them at the larger universities under the names of Classics, Near Eastern Languages and Oriental Languages or somewhat similar titles. Because it is important for archaeologists to have a solid grounding in the ancient languages of the areas where they intend to work, it is convenient to have the archaeology of these areas taught in direct association with the languages. In some universities courses in Classical archaeology are also given in the Art Department because of the close traditional relationship between Classical archaeology and art history.

Archaeology is a field of pure research, like astronomy or history. It is not economically profitable to anyone, nor are its results normally useful to business and industry. Consequently, there are no jobs for archaeologists in the sense that there are jobs for accountants or even for research chemists and engineers. Furthermore, it is difficult to raise funds to finance research projects in archaeology, even on a small scale, because the subject has little or nothing to offer to business, to national de-

fense or even to public entertainment. It is an unlikely field in which to look for solutions to modern social problems and hence has no appeal for reformers.

It is important to emphasize the economic difficulties of archaeology as a career because they are not always obvious to people whose imagination is fired by reading of archaeological discoveries or by visiting museums and ancient ruins. Employment opportunities for people trained as professional archaeologists are few and the salaries are comparatively low. At the same time it is a field that requires thorough training and usually a Ph.D. degree (i.e., three to five years of graduate work after the normal four years of college). No one should plan to make a career of archaeology unless he is so deeply interested in it that he is not really concerned about how much he is going to earn.

The best positions open to archaeologists are those as college teachers or museum curators, and these jobs are strictly limited in number. Not all colleges and universities teach archaeology, and relatively few museums can afford to have research men on their staff. In these jobs, of course, the archaeologist is expected to devote a substantial part of his time to teaching or to the care and exhibition of collections, and his research has to be carried on more or less in his spare time, evenings, weekends and in vacations. Archaeologists do not work bankers' hours.

An archaeologist's chances of getting an appointment in college teaching or in museum work are much improved if he has broad training in something besides archaeology. If the kind of archaeology he is interested in is usually taught in an Anthropology Department, he should be prepared to teach general anthropology or to handle a variety of anthropological collections. A Classical archaeologist should be prepared to teach ancient civilization and Greek or Latin literature, and so on for the other special areas. It is not difficult to get this sort of broad training in a program of archaeological study, since few universities give so many archaeology courses that narrow specialization is possible.

Some archaeologists have been hired in recent years to teach anthropology or classics in junior colleges, but there are no such opportunities in secondary schools. Consequently, the M.A. degree, which primarily qualifies the holder to teach at the secondary school level, is of no direct value in archaeology.

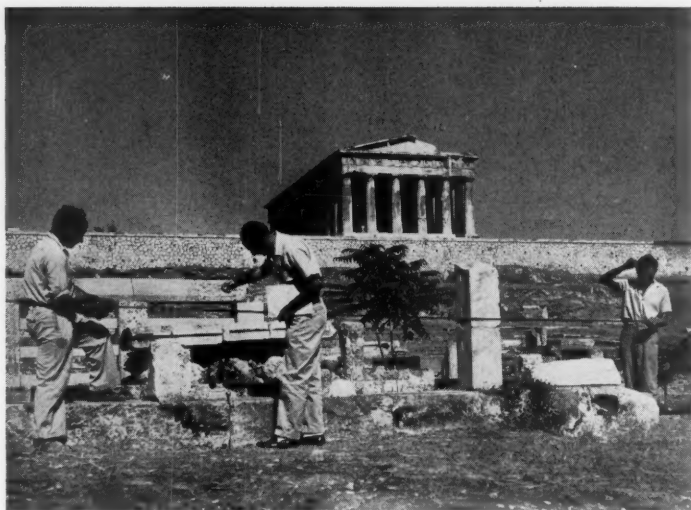
The federal and state governments support a certain amount of archaeological research in fulfillment of their responsibility for the preservation of antiquities, the care of historical monuments, and the maintenance of archae-

ological sites as places of public interest in state or national parks. A considerable number of archaeologists work for the National Park Service, for example. Since 1946 some federal and state funds have been available for the emergency excavation of sites to be flooded by new dam construction, and qualified archaeologists have been hired to direct this work under the River Basin Surveys program of the Smithsonian Institution. All such work for U. S. government agencies, of course, involves the study of sites in the United States and its territories.

Much archaeology in the United States and Europe is done by amateurs working under the auspices of state and local archaeological societies or in collaboration with a museum. They are usually business or professional people who have learned archaeological methods by reading and experience and who devote their spare time to research without pay. These amateurs must be sharply distinguished from the more numerous plunderers or pot hunters who loot archaeological sites in order to sell the specimens found or out of idle curiosity. The plunderers are a public menace and their activities destroy archaeological evidence which can never be re-

PREPARING A BURIAL for photographing and recording during the 1947 summer field session of the University of California, Berkeley, at the Blossom site near Thornton, California. The burial is an extended one, datable to the Early Horizon. The picture shows the trowel and brush which are the archaeologist's characteristic tools. (Photograph courtesy of University of California Archaeological Survey)





ARCHITECTURAL DRAWING: a basic requirement both in field work and in the study and reconstruction of ancient buildings. Here the architect of the American School of Classical Studies at Athens is measuring the foundation blocks of a small monument in the Athenian Agora, below the Temple of Hephaistos. The tools are a twenty-meter steel tape, two plumb bobs and a pad for recording measurements. Two assistants hold the tape.

Archaeology as a career continued

placed. The genuine amateur archaeologists, on the other hand, have made many valuable contributions to our knowledge of European and North American archaeology.

American archaeologists whose field of interest lies outside the United States depend on research grants made by foundations or on the generosity of private benefactors for funds to pay the expenses of their field work. The money is usually raised in the name of the university or museum for which the archaeologist works, and he applies for a leave of absence for the time he will be in the field. Occasionally an American archaeologist will enter the service of a university or museum in the country where his research interests lie in order to have more frequent opportunities for doing field work. Such service is a valuable experience, but it is likely to be difficult to arrange, since in most other countries there are even fewer positions for trained archaeologists than in the United States, with no lack of local candidates for the positions.

Because most jobs in archaeology involve either university teaching or museum work, a prospective archaeologist should have the temperamental qualifications for one or the other of these types of work and should plan his studies with the kind of position he wants in mind. A general requirement for research in any field is intellectual curiosity, an interest in asking questions and looking for answers to them. This curiosity should be

combined with impartiality and suspicion of conclusions presented without fair discussion of the evidence. Archaeological field work demands some special qualifications. An archaeologist should be able to stand a considerable amount of physical discomfort without its interfering with his work or making him excessively irritable; he should be a methodical and systematic worker; and he needs some degree of manual dexterity. Above all, he should have patience. Most of the time an archaeological excavation is dull routine, and the work goes very slowly. Some spectacular discoveries may be made, of course, but they are likely to be a lot less frequent than the disappointments.

Training for a career in archaeology involves years of study, and the earlier the student can make up his mind the better. Much can be done even in high school to plan a program which will make later study more effective. A student should make an opportunity to talk over his interests and problems with a professional archaeologist as soon as he is reasonably sure that his interest is serious. It is worth a trip to the nearest university or large museum in order to do this.

In high school a program should be laid out that will provide training in background subjects. In the first place, it is important for every archaeologist to write well and easily, since a large part of his research time is actually

spent in writing up notes on what he is finding and in preparing reports for publication. Next, foreign languages will be necessary. Most American universities require graduate students to pass reading examinations in French and German, and these languages are of especial importance to archaeologists, since there is a large and excellent archaeological literature in each of them. If the student hopes to do field work in some area outside the United States, other languages will also be necessary. Some of them can be taken in high school: Latin, for example, for prospective Classical archaeologists, or Spanish for those interested in Central or South America. Geometry and trigonometry are valuable for map making, which is an important activity in every excavation. In his spare time the student should pick up some camping experience, do some reading on the area he is interested in, and study the collections at any archaeological museum that is available to him.

On admission to college the student should consult the adviser for the Anthropology Department (or the department handling the area of his interest) at the earliest opportunity, even though the regulations may not require it. Most colleges require students to devote a year or two to general studies before they are formally enrolled in a major subject, and careful planning of the program during this period will give the student a better basis for later work. The prospective archaeologist should continue his program of language study and take some elementary science courses (chemistry, ge-

ology and palaeontology are especially useful). Courses in history and in the history of art are also to be recommended. Care should be taken to fulfil the prerequisites for more advanced courses which the student wants to take later. For example, a course in elementary Hebrew may be a prerequisite to Assyrian and Sumerian, languages which are needed by archaeologists working in the Mesopotamian field.

Sometime during his preparation the student should get some instruction in typing, photography, freehand and mechanical drawing, and simple surveying. These are all skills which are needed in archaeological field work in making the record of what is found. An archaeologist does not need all the skill of a professional surveyor or draftsman but he should be able to make a competent map or measured drawing.

An archaeologist gets his specialized training in his last two years of college work and in graduate school. Except for languages the whole program of specialized training can, indeed, be put off until graduate school without much loss of time. Hence the prospective archaeologist can get a satisfactory undergraduate education at almost any college with high academic standards. He should, if possible, major in the subject field in which he expects to do graduate work. If, however, the college he is attending has no department in his immediate field of interest (anthropology or oriental languages, for example), a major in some related field such as history, art or geography would be the best

VASE MENDING: one end of the mending room at the Agora Excavations in Athens. The vases and fragments spread out on the tables are from an ancient well once used as a dump for broken pottery. In Greece the actual mending is usually done by local technicians. The glue is a simple shellac; in the hands of a skilled mender it produces a perfect join. The excavator works along with the mender, decides what shall or shall not be mended, and gives the technician whatever help is necessary, while at the same time studying the vases and preparing for their description and publication.



Archaeology as a career continued

second choice. Whatever his major subject, the student should make every effort to maintain a high academic standing so as to qualify for admission to graduate school.

The choice of a graduate school is very important, and the student should discuss the problem with an archaeologist in his own field of interest sometime in his senior year. It is worth traveling to the nearest large university in order to do this, but if such a trip is impossible the inquiry can be made by correspondence. The problem is that for any given archaeological field there are only a small number of universities giving first class training at any one time. No university can afford to maintain specialists in all phases of archaeology, and each one usually plans to cover only a few of the various fields. The choice of fields covered at any given school will vary from time to time also as older faculty members retire and are replaced with young men whose interests are different, or as a faculty member moves to a different university to accept a job at a higher rank. It is important for the student to get up to date information about the situation in his field of interest. A student interested in going into museum work should choose a university that gives courses in museum methods, or one located near a large museum where such courses are offered.

The actual techniques of archaeological excavation and recording can be learned only by field experience, and there are several ways a student can get experience in excavation. One is through organized summer field schools. A number of American universities, particularly in the Mississippi Valley and the West, offer summer session courses in which the students take part in the actual excavation of a local site. The usual fees are charged and the students pay their own living expenses. These summer courses are usually open to both undergraduates and graduate students. For students specializing in Classical or Near Eastern archaeology the best opportunities for learning field method are provided by the schools of archaeology affiliated with the Archaeological Institute of America. There are three of these which have teaching programs: the American School of Classical Studies at Athens, the School of Classical

Studies in the American Academy in Rome, and the American Schools of Oriental Research, with branches in Jerusalem and Baghdad. These schools admit graduate students for a year or more of study and provide opportunities to take part in organized excavations in their respective areas. In each of these schools some fellowships are available for outstanding students. Further details about their programs can be found in Appendix III to Kenyon's book cited in the reading list on page 236.

Other opportunities for field experience are offered by the weekend excavations carried out in many parts of the United States by the state and local archaeological societies. These programs of weekend excavation depend on volunteer labor, and anyone with a serious interest in the work is usually welcome. Whether the student is interested in local archaeological problems or not, work of this kind is very valuable experience.

To keep in touch with new developments in archaeology it is important to subscribe to and read one or more archaeological journals. Three of general interest are given in the reading list below. Membership in archaeological societies which meet near the student's place of residence is also a stimulating experience and provides opportunities to meet people whose advice will be helpful. The Archaeological Institute of America has forty branches in American cities and university communities which hold periodic meetings to hear lectures on archaeological subjects, and most of the state archaeological societies have similar programs.

In conclusion, some comments on choosing an archaeological field may be added. Specialization in archaeology is necessarily by area, as in the humanities, rather than by subject matter, as in the natural sciences. Archaeologists become experts in the cultural history of a particular part of the world and do their field work in the area they are trained to know best. Occasionally an archaeologist changes fields, but most people become so interested in the research problems of the field in which they were first trained that they stay in it. In some area fields a further specialization by subject matter is possible; in Classical archaeology, for example, there are specialists in inscriptions, in coins, in pottery

STRATIFICATION: showing how the archaeologist reads the evidence. Exploration has recently been completed in the Stoa of Attalos, the great colonnade which closed the east side of the Athenian Agora for some four hundred years, from 150 B.C. until its destruction in A.D. 267 [See *ARCHAEOLOGY* 7 (1954) 138-140.] Since the land was low at the north end of the Stoa the foundations were correspondingly deep. In the mass of earth within the foundations, twenty feet deep, was preserved a graphic record of the history of the site up to the time of the construction of the Stoa. A vertical sample of the stratified deposit was left by the excavators alongside a pier which had supported one of the building's interior columns. The stratification may be read as follows, from bottom to top:



A = Bedrock			
B, C = Successive floor surfaces in an early enclosure, probably a sanctuary	500-480 B.C.	I, II = Successive layers of soil containing much ash and evidence of burning	
D = Original floor of early lawcourt	415 B.C.	III = Construction fill of early lawcourt	
E = Final floor of early lawcourt	415-330 B.C.	IV = Earth accumulated during period of use of early lawcourt	
F = Level when construction began on later lawcourt	330 B.C.	V = Disintegrated crude brick from walls of early lawcourt	
G = Floor level of later lawcourt	320 B.C.	VI = Construction fill of later lawcourt	
H = Level when construction began on Stoa of Attalos	150 B.C.	VII = Disintegrated crude brick from walls of later lawcourt	
I = Mosaic floor of Stoa of Attalos	150 B.C.	VIII = Construction fill of Stoa	

Archaeology as a career continued

and in architecture as well as people with a general interest in the whole field.

Because the program of training for each area is different, it is important for the student to choose an area of specialization early and stick to it. For most students the choice of an area is not a serious problem because they become interested in archaeology through reading or studying about some particular area. For the few who start with a general interest, the choice may be difficult but it need not be a matter of serious concern. There are important archaeological problems in every part of the world and not enough people working at them. Even in fields where a vast amount of work has already been done the progress of discovery brings new problems to light, and earlier conclusions need constant revision. As archaeologists devise more refined research methods, too, old problems can be reopened. The problems vary in different areas, but they are all interesting.

READING LIST

There is a lot of popular literature on archaeology, but much of it is inaccurate and sensational. Book and magazine articles which give the reader the impression that archaeological field work is a glorified search for buried treasure are especially pernicious since their effect is to encourage disturbance and looting of archaeological sites by idle curiosity seekers. Some sound works of a non-technical nature are included in the following reading list, along with reference and other material helpful to the beginner.

1. JOURNALS

ARCHAEOLOGY. An illustrated quarterly specializing in popular but responsible articles on the archaeology of all parts of the world, published by the Archaeological Institute of America at Andover Hall, Cambridge 38, Mass. Subscription \$5.00 a year.

ANTIQUITY. A quarterly journal dealing with archaeology in general but with some emphasis on Old World prehistory. Published by H. W. Edwards, Ashmore Green, Newbury, Berks, England. Subscription \$5.00 a year.

AMERICAN ANTIQUITY. A quarterly journal covering the field of New World archaeology, published by the Society for American Archaeology. Its business office varies and the address should be secured from a recent issue in the nearest library. Subscription \$6.00 a year.

2. BOOKS AND ARTICLES

Braidwood, Linda. *Digging Beyond the Tigris*. Henry Schuman, New York, 1953. (Life and work on an archaeological expedition in the Near East.)

Daniel, Glyn E. *A Hundred Years of Archaeology*. Gerald Duckworth & Co., Ltd., London, 1950. (A history of Old World archaeology, with emphasis on European prehistory.)

Heizer, Robert Fleming. *Manual of Archaeological Field Methods*. Second edition. The National Press, Palo Alto, Calif., 1950. (Includes a detailed bibliography of archaeological methods.)

Kenyon, Kathleen M. *Beginning in Archaeology*. Revised edition; with sections on American archaeology by Saul S. Weinberg and Gladys D. Weinberg. Phoenix House Limited, London; Frederick A. Praeger, Inc., New York, 1953.

Matheson, Sylvia. "Teach Me How to Dig," *The Geographical Magazine*, Volume 22, No. 9 (January, 1950), pages 378-386. (An account of experiences at a field school of archaeological method.)

Petrie, William Matthews Flinders. *Methods and Aims in Archaeology*. Macmillan and Co., Limited, London, 1904. (A classic work, still worth reading for its statements of the point of view and responsibilities of archaeologists.)

Wheeler, Sir Mortimer. *Archaeology from the Earth*. Clarendon Press, Oxford, 1954.

Wissler, Clark. *The Archaeologist at Work; How Science Deciphers Man's Past*. American Museum of Natural History, Science Guide No. 116, New York, 1946. (Reprinted from *Natural History*, Volume 51, No. 3, 1943.)

Woolley, Charles Leonard. *Digging Up the Past*. Pelican Books, A4, Harmondsworth (England) and Baltimore, 1937.

Barzun, Jacques. *Teacher in America*. Little, Brown and Company, Boston, 1945. (Discussion of some of the problems of college and university teaching which gives a good idea of what a career in this type of teaching involves.)

Careers in Museum Work. Careers Research Monographs, Research No. 91. Second edition. Institute for Research, Chicago, 1950. (Advice to students considering a museum vocation.)

Thomas, William L., Jr., and Anna M. Pikelis, editors. *International Directory of Anthropological Institutions*. Wenner-Gren Foundation for Anthropological Research, Incorporated, New York, 1953. (Lists universities, museums, societies and other institutions all over the world which cultivate the field of archaeology. A good source of information about existing jobs, courses, collections and sources of advice.)

THE PRINCETON ART MUSEUM

Antiquities Received in Recent Years

By FRANCES FOLLIN JONES

Curator of Classical Art

THE ART MUSEUM, Princeton University, began its history in 1880 when William Prime, a Trenton potter, offered his ceramic collection to the college. By 1888, largely through the efforts of Allan Marquand, founder of the Department of Art and Archaeology and of the museum, the present yellow-brown brick building was in use, housing museum, department, and art library. All these units have flourished in the intervening years; with newer quarters provided for the department and library, the museum now occupies, although with bulging walls, more than two thirds of the original structure. Starting with Mr. Prime's diversified group of pottery and porcelain, Professor Marquand expanded the collection so that students in the department might have examples of the other minor arts, sculpture, and painting available

BRONZE COMIC ACTOR. Hellenistic or Early Roman. Those who have read *The Mostellaria* of Plautus will recall the scene in which Tranio, taking refuge on the altar, happily taunts his master, with full knowledge of his immunity from punishment. This bronze statuette portrays a comic actor in his mask playing just such a part. Similar representations are to be found in vase paintings, terracotta figurines and other media during the Hellenistic and early Roman periods. Height 7 $\frac{5}{8}$ inches. The C. O. von Kienbusch, Jr. Memorial, 1948.





LIMESTONE RELIEF. Egyptian, VIth Dynasty, 2420-2258 B.C. This sunk relief showing a man who raises his arms in worship is perhaps from the right side of a false door of a *mastaba* tomb. Traces of the color which once made the relief bright with blue, black, red, and green are still to be seen in the crevices. Even at this early period the conventions of Egyptian art were old and had been in use for centuries; the composite view of the human figure—profile head and feet, full-face shoulders—are familiarly thought of as typically Egyptian. Height 24½ inches. The C. O. von Kienbusch, Jr. Memorial, 1953.

SILVER CAT. Egyptian, Saitic Period, 663-525 B.C. Egyptian art constantly altered and varied despite a misleading effect of uniformity. During the Saitic Period there was a conscious revival of archaic simplicity which was treated with the sophistication and elegance of a more knowing age. The interplay of completely plain surfaces to form curves and outlines of marvellous beauty in this superb statue of a cat is not a purely academic exercise, for the lithe and sinuous quality of the feline is expressed with great distinction. Height 12¾ inches. Presented by J. Lionberger Davis in 1952.

PRINCETON *continued*

for first-hand study. The growth of the collection continued under Frank Jewett Mather, Jr., the first officially designated director, and is still being rounded out by his successor, Ernest T. DeWald. Gifts and purchases (the latter made possible by funds given and bequeathed) bring to Princeton objects of quality to represent art from its earliest appearance in the Nile valley to modern abstractions.

The Egyptian collection runs the gamut from an interesting group of predynastic vases to decorative textiles of the Coptic period. Ancient art of the Middle East, although unevenly represented, nonetheless can be illustrated with effective pieces. An excellent series of Cypriote pottery was obtained from the Cesnola collection in the early days of the



museum's history. Various types of Italic and Etruscan pottery provide a good study group. The greater part of the collection of antiquities is made up of objects from phases of Greek and Roman civilization: sculpture and small bronzes, pottery ranging from Helladic times on, clay figurines, glass, coins, and other categories of the minor arts. (Of archaeological interest, although far removed from the Mediterranean cultures, is a group of Central and South American pottery, clay and metal objects.) The growth of the collection has been steady, but several particularly important pieces have been added recently. A variety of antiquities, acquired in the last few years, is illustrated here to give a hint of what may be found in one section of The Art Museum.



TRIBUTE BEARER. Persian, Early Fifth Century B.C. As the Persian Empire was expanding to its westward limits and ultimately meeting resistance in Greece, the Achaemenid rulers were building a complex of palaces and audience halls in Persepolis. Long stretches of stone terrace walls and balustrades were sculptured with rows of figures in procession. The fragment in Princeton, apparently from a stairway of the palace of Xerxes erected between 486 and 465 B.C., shows a Persian in typical costume bearing tribute to the ruler and mounting the stairs at which the figure was placed. The occasional decorative detail is used in effective contrast to austere plain surfaces. Height 23 inches. Presented by Gordon McCormick in 1949.

SILVER PANTHER. Persian, Hellenistic Period. The panther was formerly fastened to some object, perhaps the lid of a vessel, and held a ring or other attachment in its mouth. The curves of the head, haunches and tasseled tail give the creature the decorative quality which pervades Persian art; formality and stylization are present, but in a lesser degree than is usual before and then again after the period when Hellenistic culture was widespread in the Middle East following the conquests of Alexander. Height 1 $\frac{3}{4}$ inches. The C. O. von Kienbusch, Jr. Memorial, 1953.

PRINCETON *continued*



BRONZE WARRIOR. Greek, Mid-Sixth Century B.C. The sturdy little warrior once held shield and spear. If he seems a bit rough-hewn for a period which in Attica had certain elegance, it is because he is the country cousin from Arcadia. An inscription on his back marks him as the dedication of one Pythodoros to the river Pamisos. Perhaps the figure is Pythodoros himself, ready to take on all comers. Height $4\frac{1}{2}$ inches. Presented by Mrs. T. Leslie Shear in 1947.

BRONZE LION. South Italian (?), Fifth Century B.C. This crouching lion with mane in a neat ruff around his head was once attached to an object, possibly a brazier or deep vase, as an ornament. Because of the rather cylindrical body and the stylized figure-eight tail, the profile view suggests an early date. The front view, however, shows a face more anthropoid than leonine which is clearly of well developed fifth century style. The lion may be Etruscan, but there is a Greek quality about him which suggests that he was made in southern Italy where Hellenic influence was stronger. Height $3\frac{3}{8}$ inches. Museum purchase, 1953.





SILVER MEDALLIONS. South Italian, Third Century B.C. Two of a known set of six, these roundels probably were *emblemata* set into the bottoms of plates. The heads of Medusa and Hermes still have touches of gilding. The enclosing band of wave pattern was a device popular in South Italian vase painting, coin designs and other decorative objects. The report that the medallions were found in Tarentum strengthens the suggestion that they are the work of a South Italian metalsmith. Diameter $2\frac{3}{4}$ inches. Purchased in 1951 with a fund given in memory of Mr. and Mrs. Allan Marquand.

MARBLE RELIEF OF POET. Roman Copy of Greek Original. This relief of a dramatic poet, identified as Menander, was formerly in the Stroganoff collection and is a well known piece. Certain of the restorations were removed before the relief came to Princeton but others still remain: the poet's nose and top of his head, the chair legs and the table stretchers. The most recent discussion of the plaque is by Margarete Bieber, in the *Festschrift Andreas Rumpf*. She equates the masks with characters in Menander's *The Samian Girl* and considers the relief a copy of a third century B.C. original. Height $19\frac{1}{2}$ inches. Museum purchase, 1951 (The Caroline G. Mather Fund).



MARBLE SARCOPHAGUS PANEL. Roman, Second Century A.D. A well known group of scenes related to the life and worship of Dionysos was evidently the source of inspiration for the decoration of at least five Roman sarcophagi which have survived from antiquity. The front panel of one of these coffins, now in Princeton, shows three of



the scenes (originally there was a fourth, broken off at the right). The composition at the left, the raising of the herm, is known also from the relief ornament on a Roman lamp and was copied in a seventeenth century Italian engraving now in the Museum's collection. Elements of the other scenes, the blessing of the vine and the caring for the infant Dionysos, are repeated in sarcophagi in Munich, Rome, and Vienna. The style of the workmanship suggests that the Princeton sarcophagus was carved in the second century A.D. Length 59 inches; height 15 $\frac{1}{8}$ inches. Museum purchase in 1949 (The John Maclean Magie and Gertrude Magie Fund).



MARBLE HEAD OF FAUN. Greek, Hellenistic Period. The immense popularity of the laughing satyr and faun in Hellenistic and Roman art is reflected in the number of examples of varying quality which have survived. Except, perhaps, in the case of some of the slick and highly polished pieces which are undoubtedly Roman, it is difficult to work out the chronology of the various examples, even along broad outlines. The head of this snub-nosed, amiable faun seems to fit in best with a Hellenistic date. Height 9 $\frac{1}{2}$ inches. The C. O. von Kienbusch, Jr. Memorial, 1948.

PRINCETON *continued*



MARBLE BUST OF CARACALLA. Roman, Third Century A.D. The smoldering but handsome face of the infamous Caracalla lent itself to effective sculpture, and Roman artists, long adept at portraiture, must have relished such a positive personality. The turbulent curls picked out with drill work, the contrasting smoothness of the flesh surfaces, the indication of pupils to concentrate the gaze under the heavy brows, all contribute to the intensity of the portrait of the emperor who ruled from 211 to 217. Height 20 inches. The C. O. von Kienbusch, Jr. Memorial, 1951.



MARBLE RELIEF FROM SARCOPHAGUS. Roman, Late Third or Early Fourth Century A.D. Early Christian art adapted to its own uses motifs long familiar to the pagan world. The herder carrying one of his animals across his shoulder, from time immemorial an everyday sight in an agricultural civilization, was straightforward representation in Greek and Roman art. To the Christian the theme had the symbolical interpretation of the Good Shepherd, Christ watching over His flock. The Princeton relief is a fragment from a sarcophagus decorated with one or more such scenes. Height 14 1/8 inches. Gift of the Friends of the Museum, 1952.

By *Alison Frantz*

THE HEPHAISTEION REVISITED

THE SCULPTURED INNER FRIEZE at the east end of the Hephaisteion (the so-called Thesum) in Athens has been one of the most neglected monuments of fifth century sculpture. Blackened and disfigured by the accretions of centuries, its true quality has been well concealed and only its general character could be distinguished from photographs either of the frieze itself or of casts.

In the summer of 1953 the work of cleaning the frieze was undertaken by the Agora Excavations of the American School of Classical Studies at Athens after consultation with the Greek archaeological authorities.

Analysis of the deposit which obscured the sculptures indicated that it was composed of about two-thirds calcium carbonate and one-third ordinary mud, probably formed by gradual seepage through loose joints of the ceiling coffers above. The west frieze, having none of the ceiling preserved, is much cleaner, through constant exposure to rain and sun, but the surface is in general less well preserved.

No acids, soaps, detergents or chemicals of any sort could be used for fear of ultimate damage to the Parian marble. After experimenting with various kinds of implements it was discovered that the best results were ob-

The Hephaisteion from the east: the inner frieze, now cleaned, can be seen behind the columns of the façade.





Hephaisteion East Frieze [top]: the first slab from the south, the central group. The subject of the frieze, a struggle between Greeks and barbarians, has never been precisely identified. In this excerpt a prisoner is being bound.

Hephaisteion East Frieze [bottom]: the second slab from the south. Two groups of seated divinities watch the struggle. Here the figure at the left is identified as Athena by the holes for the attachment of the bronze snakes of her aegis. The middle figure, with garment drawn over her head, will be Hera, and her male consort will no doubt be Zeus.



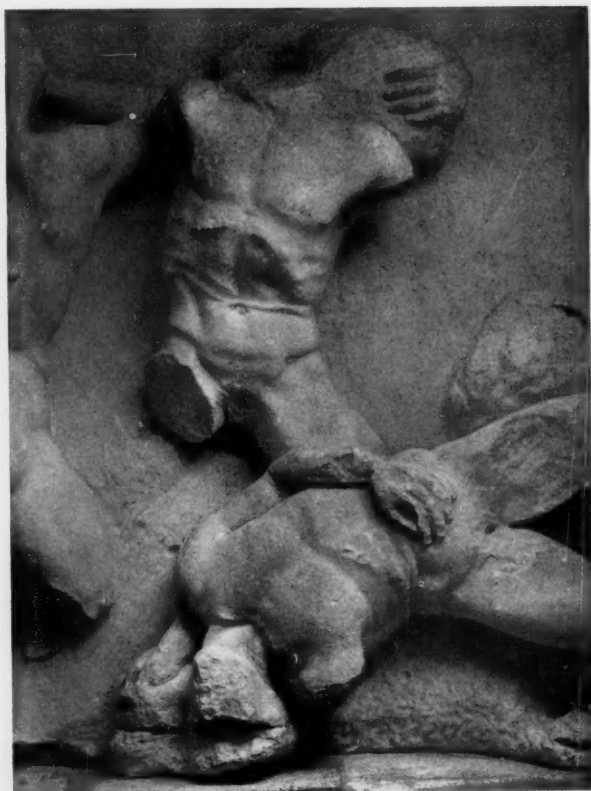
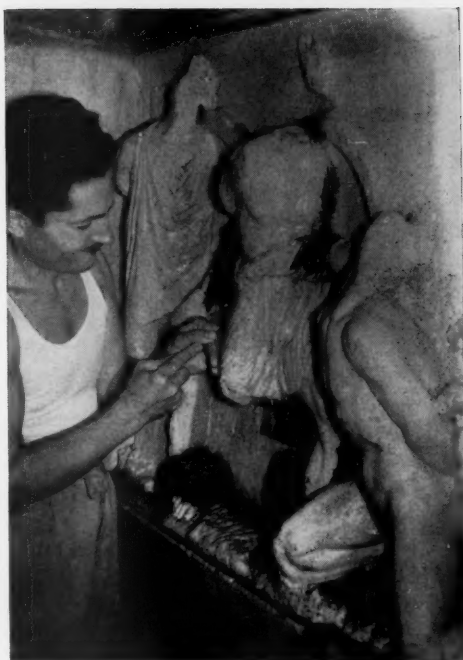
Hephaisteion East Frieze: the fourth slab from the south, details. In this part of the combat the weapons are huge boulders. Above: before cleaning. At right: after cleaning.

tained with a light steel chisel used with the greatest care. Where the deposit was thickest (ca. 2 mm.) it could sometimes be flaked off by gentle tapping with a blunt instrument; elsewhere it was loosened by the edge of the chisel. Constant wetting had a softening effect and each figure was swathed in burlap for some days before cleaning began; the burlap was soaked at frequent intervals, sometimes with alternately hot and cold water. On the background a brush of brass wire was used to good effect. Very slight traces of color under the deposit indicated that the background had been blue, some at least of the drapery red, and that green had been used for the boulders on which the divinities were seated.

The work was finished in just under four months, with two men working full time. A complete photographic record was made, and at the same time the existence of the necessary scaffolding gave the opportunity for many visiting scholars to see the sculpture at close range.



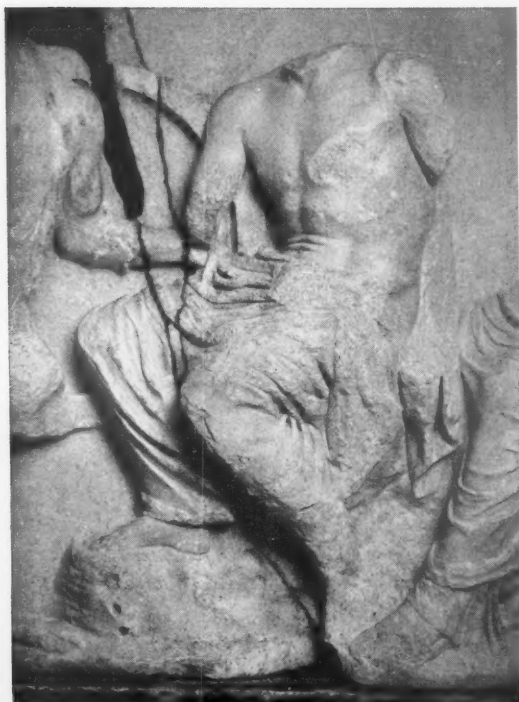
Hephaisteion East Frieze: the first slab from the south. Technician at work.



Hephaisteion East Frieze: the fourth slab from the south, the central group. A fallen figure and his assailant.

THE HEPHAISTEION REVISITED CONTINUED

A pleasant surprise awaited us in the condition of the surface of much of the sculpture. To be sure, all heads, except two and they much battered, most arms and many legs are missing. In some figures, presumably those longest subject to seepage from above, the surface is completely eaten away. But many torsos which seemed from the raggedness of the deposit to be well on the way to disintegration, proved on cleaning to be as fresh as the day they were made, and revealed a quality which will enable them to take their proper place in the limited gallery of surviving fifth century sculpture.

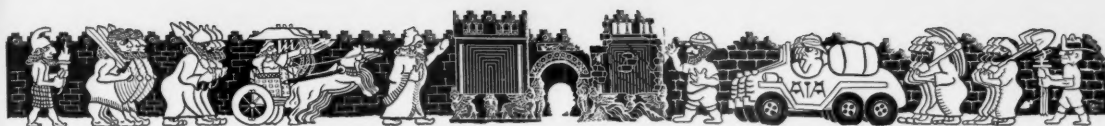


248



Hephaisteion East Frieze: the fifth slab from the south, details. Of the second group of seated divinities one (above) is shown partly cleaned, the different layers of the lime deposit plainly visible. Another (at left) is shown after the cleaning was completed.

ALL PHOTOGRAPHS BY THE AUTHOR



ARCHAEOLOGICAL NEWS

Obituaries

During the past months death has taken a number of archaeologists and scholars whose work was associated with the study of archaeology:

M. LOUIS LESCHI, Director of the Service des Antiquités d'Algérie, authority on the archaeology of North Africa (January 7, 1954);

Dr. WILLIAM SCOTT FERGUSON, Emeritus Professor at Harvard University, historian of ancient Athens (April 28, 1954);

Dr. ALICE LESLIE WALKER KOSMOPOULOS, specialist in the prehistory of Greece (June 25, 1954);

Dr. HENRI FRANKFORT, Director of the Warburg Institute and Professor of the History of Pre-Classical Antiquity at the University of London, former Research Professor of Oriental Archaeology at the Oriental Institute of the University of Chicago, authority on the archaeology of the Near East (July 16, 1954);

Dr. GABRIEL WELTER, excavator of Aegina and other sites in Greece and in Palestine (August 2, 1954);

S. ANTONIO MINTO, Professor of Etruscology and Italian Antiquities at the University of Florence, a distinguished figure in the field of Etruscan archaeology (August, 1954).

Classical Congress in Copenhagen

(Homer A. Thompson, Field Director of excavations at the Athenian Agora, whose reports have frequently appeared in these pages, describes for us the setting and the archaeological highlights of the international meeting of classicists.)

"The Danes worship anything foreign and everything Danish," according to a brochure published by the National Travel Association of Denmark. These propensities made the Danes excellent hosts to some six hundred members of the Second International

Congress sponsored by the International Federation of Associations for Classical Studies, which met in Copenhagen August 23-28, 1954.

The guiding theme of the Congress was "The Classical Pattern of Modern Western Civilization" and the immediate occasion was the celebration of the one hundred and fiftieth anniversary of the birth of Johan Nicolai Madvig (1804-1886). Place, theme and occasion were all happily related. Madvig is familiar to scholars as the editor of classical texts and the author of textbooks on Greek syntax and Latin grammar which have nourished generations of classical scholars in many lands. It is symptomatic of the spirit of his time and country that this great scholar made his influence felt far beyond the confines of the lecture room. His place in Denmark's public life was eloquently brought out in an evening devoted to the formal celebration of his anniversary.

The sculptor Bertel Thorvaldsen (1770-1844), a somewhat older contemporary of Madvig, had been equally active in infusing classical forms into contemporary art. In the Thorvaldsen Museum are displayed a number of the sculptor's original works, some hundreds of his studies and casts and his own collection of classical antiquities. The significance of Thorvaldsen as an apostle of classicism was discussed by Professor Else K. Sass of Aarhus.

Several sessions were "Joint Meetings," others were designated as "Archaeology," "Literature," "Philosophy," "Law" or "Religion." As many as three sessions were in progress at one time. The present note will touch chiefly on the papers in archaeology.

Most rewarding, perhaps, of the joint sessions was one devoted to urbanism and town-planning. Professor Kriesis of Athens began by tracing the growth of urbanism in Greece from Mycenaean times throughout antiquity. J. B. Ward Perkins, of the British School in Rome, then proceeded to a carefully reasoned

discussion of Roman town-planning, particularly its origins and its development within the republican period. Of the two possible sources of inspiration, the Greek and the Etruscan, the speaker was inclined to favor the Etruscan, largely on the evidence, albeit limited, of Marzabotto. The study of subsequent developments has been put on a much surer basis within the past few years by the excavations at Cosa and at Alba Fucens. Professor Axel Boethius of Göteborg carried the story farther by pointing out that in the later mediaeval period in several Italian cities certain characteristic features of imperial Roman town-planning reappeared, particularly the free use of tenement houses with rows of shops along the streets. The question whether this represented a revival or a persistence of tradition gave rise to a spirited though inconclusive discussion.

One day was devoted to prehistoric, or, as one should now perhaps say, pre-classical Greece. In a long paper, the significance of which will no doubt be more apparent when read than when heard, Professor V. Gordon Childe of London dealt with relations between Greece and prehistoric Europe. Professor Carl W. Blegen of Cincinnati summarized his four seasons' work in the Palace of Nestor at Pylos and showed color reproductions of many newly cleaned mural paintings from the palace. These are sadly fragmentary but of excellent quality, both miniature and large scale, with representations of armed combat, of hunting scenes and a shrine. Professor S. Marinatos of Athens, in discussing the continuity between Mycenaean and Classical Greece, adduced by way of illustration a number of Mycenaean tombs not far from Nestor's palace in which he has discovered traces of cult practices extending from the Geometric into the late Roman period.

On the same day Mr. Michael Ventris of London described with his usual lucidity, modesty and charm the steps

which led to the decipherment of Linear Script B. In his exposition Mr. Ventris gave generous credit to those who have worked both before and with him in this field; the story reveals a singularly happy instance of scholarly collaboration. Mr. Ventris' own paper must have brought conviction to most of the audience, but a final note of assurance was sounded by Professor Ignace J. Gelb of Chicago who spoke as an expert in early scripts without any preconceived notion about the Minoan-Mycenaean.

The strikingly parallel developments of early Athens and early Rome were traced respectively by the undersigned and by Professor Einar Gjerstad of Lund. Professor Pierre Amandry described the results of the French School's work at Delphi from 1938 to 1950. Mr. Arif Müfid Mansel of Istanbul described his recent work in the Pamphylian cities of Sidé and Pergé from which has come an abundance of sculpture and of inscriptions. Mr. Ejnar Dyggve of the Ny Carlsberg Foundation summarized the results of his investigations at Thessaloniki on the basis of which he has shown the round Church of St. George and the Arch of Galerius to be elements in the design of an imperial palace of stupendous scale. Professor P. Romanelli told of recent excavations in Rome and Latium; of particular interest is the sculpture found in Hadrian's Villa at Tivoli, above all the mechanically exact replicas of the Caryatids of the Erechtheum. Dr. G. V. Gentili brought word of the excavation of another great villa of imperial times, that at Piazza Armerina in eastern Sicily.

Mr. Bernard Ashmole brilliantly reconstructed the great temple at Cyzicus, of the time of Hadrian, from a few drawings by Cyriac of Ancona which have recently been acquired by the British Museum; in the process Cyriac's reputation for trustworthiness was not a little enhanced. Mr. J. S. P. Bradford of Oxford illustrated the value of aerial photography in Mediterranean archaeology by reference to some of his own recent studies, e.g. of the town-sites of Rhodes and Paestum, the cemeteries of Cervetri and the land survey of Salona in Dalmatia. It was good to learn from Professor F. Matz that a definite program exists for the continuation of the corpus of ancient sarcophagi, and that work is in progress.

The archaeological program was

concentrated for most of the final day on portraiture. Professor Bernhard Schweitzer of Tübingen expounded the more or less orthodox views now current regarding the beginning of true portraiture in Greece. In dealing with the origin of portraiture in Rome, Professor O. Vessberg, of the Swedish Academy in Rome, refused to admit any distinctively Italic contribution but maintained that the early "Roman portraits" were the work of immigrant Greek artists who drew freely on contemporary late Hellenistic practice in Athens, Asia Minor and Alexandria; in this contention Dr. Vessberg was warmly challenged by M. Charbonneaux, who sent his comments in writing. Mrs. Else Sass, as noted above, concluded this session with a paper on "The Classical Tradition in Later European Portraiture, with special regard to Thorvaldsen's Portraits."

The papers did not constitute the whole of the feast. In addition to the evening ceremony already referred to, the members of the Congress were the guests at receptions given by the Ny Carlsberg Glyptotek and by the Danish Minister of Education in the aula of the University of Copenhagen. The classical galleries of the Glyptotek have been largely redecorated, the mounting is uniform, unobtrusive and tasteful, and many plaster noses have been removed; one can now enjoy to the full both the superb collection of archaic and classical sculpture and the long series of ancient portraits, no doubt the most valuable in all the world. Members of the Congress were also made welcome at the National Museum. The University, the Royal Library and the National Archives had arranged special exhibitions of manuscripts and books in the field of classical studies.

The proceedings of the Congress are to be published in four volumes.

Discussion led to a preliminary move toward the establishment of an International Congress of Classical Archaeology, with a view toward gatherings at which "classical archaeologists could discuss more specialized problems in a more intimate atmosphere." It was agreed that the new congress should meet every five years, the first meeting to be in 1957. Rome was tentatively fixed as the place for the first meeting. An Interim Committee was set up with Professor Axel Boethius of the

University of Göteborg as Chairman and Mr. J. B. Ward Perkins of the British School at Rome as Secretary.

While looking forward to future gatherings, all who shared in the recent Congress will long retain happy memories of a lovely city, of the warm hospitality of their Danish hosts and of the stimulus that comes of periodic association with fellow workers from other lands.

Fireside Archaeology

Those who have seen the television program "What in the World?", sponsored by the University Museum of the University of Pennsylvania, or have read the condensation of a typical program in our Spring 1953 issue (pages 18-23) will be interested to learn that the British Broadcasting Company is now conducting a similar series called "Animal, Vegetable, or Mineral?". This program was started by Sir Mortimer Wheeler following his appearance as a guest on the University of Pennsylvania's program two years ago. For the British series, we are told, various museums participate, each in turn furnishing the objects to be identified and discussed.

It is also reported that television programs of a similar nature are going on in Seattle, Tucson—and Denmark.

New Smithsonian Exhibit

A completely modernized exhibition hall, "Highlights of Latin American Archeology," was formally opened April 14, 1954 in the United States National Museum of the Smithsonian Institution. For over a year this hall has been undergoing revision and modernization, to present the aboriginal, pre-European history of Latin America as reconstructed through archaeological evidence in an artistic, educational and interesting manner.

Instead of following the previous arrangement of the collections, according to modern political boundaries, the hall has been divided into alcoves corresponding to "aboriginal culture areas"—the Andean Culture Area, the Tropical Forest Culture Area, the Marginal Culture Area, the Circum-Caribbean Culture Area, and the Meso-American Culture Area, which is subdivided into the Maya and the cultures of the Val-

ley of Mexico. These groupings are not organized units like modern countries but rather regions where similar environmental conditions existed and where people found similar kinds of tools and techniques most useful in getting food and in providing themselves with shelter and the other necessities of life. Although there must have been a great deal of exchange of ideas and inventions within and between these general culture areas, there were still many individual differences that remained to distinguish one group from another, and in the new exhibit hall the effort has been made to illustrate both facts.

The ends of the hall are devoted to large floor models and reproductions of some of the more spectacular gigantic carvings and buildings of the Aztec, Maya, Zapotec and Mixtec cultures of Meso-America. A series of colorful maps defines the geographical limitation of each culture area and the location of some of the major archaeological sites.

The modernization of this hall has been under the artistic supervision of John E. Anglim, exhibits specialist of the Smithsonian Institution, and under the scientific guidance and planning of Clifford Evans, Associate Curator of the Division of Archeology.

International Orientalist Congress

The orientalists of the world, some nine hundred of them, met at Cambridge, England, August 21-28, 1954. The international character of the meeting was marked at the opening session by speeches in English, French and Russian. Just as the concurrently meeting classicists at Copenhagen had as their guiding theme "The Classical Pattern of Modern Western Civilization," the Twenty-third International Congress of Orientalists adopted the unifying theme of "Orientalism and History" to bind together the greatly diversified fields ranging from African linguistics to Assyriology to Islam to Iranian, Altaic, Indian and Far Eastern studies. While the interests of the members were primarily historical and linguistic, archaeology too came in for its share of attention, especially in the Near Eastern groups.

Egyptian archaeology was represented in a timely manner by Z. Goenim's description of the progress of work on the new step pyramid complex recently found at Sakkara, amplified by

J-P. Lauer's paper on step pyramids as typical monuments of the Third Dynasty. B. V. Bothmer, Director of the American Research Center in Egypt for 1954-55, and H. J. A. de Meulenaere talked on various aspects of the Corpus of late Egyptian sculpture, a systematic collection, recording and study of all known pieces. Dr. Bothmer made a plea for international cooperation in obtaining photographs of late Egyptian sculpture and information on the pieces. The Egyptological section of the Congress took up the idea with enthusiasm and expected to recommend to the Congress as a whole a motion of approval which would give some official status to the project.

Four archives of cuneiform tablets in the palace of Ras Shamra-Ugarit in Syria were described by C. F. A. Schaeffer. The most important contains diplomatic correspondence with Hittite kings and is expected to shed considerable light on international relations in the mid-second millennium B.C. The new German excavations at Uruk-Warka in Iraq were reported on by H. J. Lenzen. The campaign of last winter, the first since 1938, revealed two building complexes of Seleucid-Parthian date and a number of small finds. Other archaeological reports from western Asia were those by Miss M. J. Mellink on a Hittite cemetery at Gordion, in Asia Minor; by Mrs.



Miltiades at Olympia

Sometimes the most spectacular finds are made after actual excavation is over. A marble statue or a piece of gold jewelry is generally found almost in original condition and its value is at once apparent. Bronze, however, is often overlaid with heavy encrustation which only protracted cleaning removes. At Olympia, where the German Archaeological Institute is excavating under the direction of Dr. Emil Kunze, a helmet found during the war years has recently been cleaned, revealing the inscription in Attic characters which appears in the photograph here: "Miltiades dedicated me to Zeus." The helmet is Corinthian, of the developed Archaic type. Its shape, as well as the

late Archaic date of the inscription, leaves no doubt that the helmet was dedicated by the great general of the Persian Wars, and it is believed that the dedication was offered during the decade preceding the battle of Marathon. Another, earlier bronze helmet excavated some years ago was found to be beautifully decorated with silver nails and with inlays of ivory and silver. During the recent campaign (1953-54) the excavators found a bronze statuette of a youth, the foot of a bronze tripod bearing mythological scenes in relief, an early Geometric bronze tripod with an intact griffin's head and other important objects.

Photograph courtesy of German Archaeological Institute

R. B. K. Amiran on a peculiar Iron Age tumulus near Jerusalem; and by U. Bahadir Alkim on his recent investigation of monuments and ruins in the southwestern Anti-Taurus region of Asia Minor which have led to a reconstruction of the ancient road system in that area.

R. Ghirshman described a newly discovered ziggurat from Choga Zambil near Susa in southwestern Iran dating from the thirteenth century B.C. T. G. Bibby gave an account of a recent Danish expedition to Bahrein Island, in the Persian Gulf, which investigated numerous Bronze Age tumuli, a building complex that may go back to Babylonian times and some graves from the period just before Islam. No very close connections with Mesopotamia were found, but an Indian stamp seal testifies to Bahrein's position on the trade route.

The archaeology of the great subcontinent of India was represented only

by Ahmad H. Dani's general paper on the archaeological background of Indian history, and of Southeast Asia by B. Ph. Groslier's account of excavations at the royal palace of Angkor Thom. Although numerous papers dealt with Far Eastern art, only two, by T. L. Yuan on recent archaeological finds in China, and by K. Komai on the Ainu stone circle of the Stone Age, were in the general field of Far Eastern archaeology.

Discoveries in Ethiopia

We learn from M. Jean Doresse, founder (in 1953) and first director of the antiquities service of the Ethiopian Government, that an initial campaign of excavations, lasting three months, has just been successfully carried out under government auspices.

Investigating three sites in the northern part of the country, M. Doresse has had excellent results. At Axoum he found groups of funeral monuments

and at Yeha some South Arabian inscriptions. The most remarkable finds were made, however, at a place thus far unknown archaeologically, above the Somali desert. Here he unearthed a series of royal objects, including a statue, a scepter and a votive altar, associated with Egyptian pharaonic vases. All the objects date, apparently, from the sixth and fifth centuries B.C. We hope to secure further details of this important discovery.

Society for American Archaeology

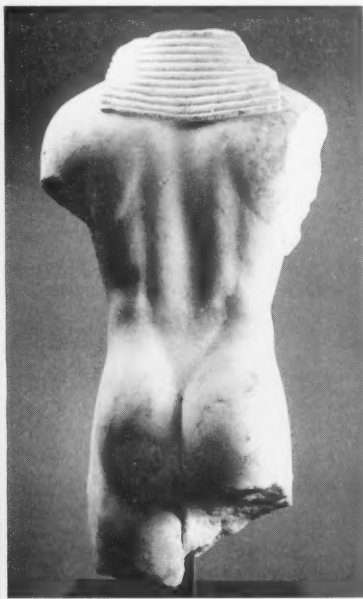
The nineteenth annual meeting of the Society for American Archaeology was held at Albany, New York, on May 7 and 8, 1954. Two half-day sessions were devoted to papers on various archaeological topics, one session dealt with the Midwestern area, and a fourth with the Northeastern area. In the general sessions, papers on strictly Americanist topics were in the majority, but subjects of more general interest included a theoretical paper by Irving Rouse, "On the Correlation of Phases of Culture," and a discussion by Frederick R. Matson on charcoal concentration techniques to obtain specimens for Radiocarbon 14 dating. A paper by Howard A. McCord and S. Kodama described a protohistoric culture of the Okhotsk Sea region, an Asiatic area of more than casual interest for Americanists. Douglas S. Byers discussed "The Maritime Culture of the Northeast" in terms of ecology and technology; an interesting point raised by the presence of swordfish swords in certain New England shell heaps is the possibility of a pelagic fishery at a relatively early date, in contrast to the shore and bay fishing of the period of European contact. The annual dinner featured an illustrated lecture by William Duncan Strong on the archaeological discoveries made by a recent Columbia University expedition in southern Peru.

The new officers of the Society are Robert Wauchope, President; Carlyle S. Smith, First Vice-President; J. Charles Kelley, Second Vice-President; Albert C. Spaulding, Secretary; William J. Mayer-Oakes, Treasurer; Richard B. Woodbury, Editor; William A. Ritchie, Associate Editor; and Ralph L. Beals and Clifford Evans, Jr., members of the Executive Board.



Greek Youth in Cleveland

A beautifully preserved torso of a nude youth, or *kouros*, of the Greek Archaic period, has recently been acquired by the Cleveland Museum of Art. Of island marble, it is 24 $\frac{3}{8}$ inches high as preserved. The original height must therefore have been above five



feet. This accession adds an excellent example to the small number of *kouroi* now in the United States and constitutes an important addition to the Cleveland Museum's Classical collection (for other Classical objects in this Museum see *ARCHAEOLOGY* 6 [1953] 197-198).



Exhibitions for Anniversary Meeting

A series of interesting exhibitions will be on view in Boston and Cambridge during the General Meeting of the ARCHAEOLOGICAL INSTITUTE OF AMERICA which marks the Institute's seventy-fifth anniversary (December 28-30). The Museum of Fine Arts, Boston, will present Famous Ancient Masterpieces from American Museums. Egyptian, Mesopotamian, Greek and Roman objects of renown are being lent by the Metropolitan Museum, New York, the Brooklyn Museum, Brooklyn, New York, the University Museum, Philadelphia, Pennsylvania, and the Oriental Institute, Chicago.

Two exhibitions will be held at the Fogg Art Museum of Harvard University. Ancient Art in American Private Collections will include Egypt, the Ancient Near East, Greece and Rome as well as several outstanding pieces of prehistoric European art. Some sixty collectors in this country, Canada and Cuba are sending more than three hundred pieces of sculpture, bronzes, jewelry, vases, glass and terra cottas to this comprehensive showing. A notable selection of Greek coins will be on view. Hellenistic Art in Asia will trace the diffusion of Hellenistic ideals in the Seleucid Empire, Parthia, Bactria, Gandhara and Central Asia from the fourth century B.C. to the fifth century A.D. Sculpture, painting, metal work and other media will provide the exam-

ples drawn from the collections of American museums and the Musée Guimet, Paris. Negotiations for material from Pakistan are under way.

The Houghton Library of Harvard University will show Archaeological Publication—Sixteenth to Twentieth Centuries, comprising the early material of Egyptian and Classical archaeology from the time of *Hypnerotomachia* through the time of Sir William Hamilton.

The Boston Numismatic Society will exhibit coins from the collections of its members at the Sheraton-Plaza Hotel, Boston, where most of the sessions of the meeting will be held.

Two of the pieces included in the Fogg Museum's exhibition of Ancient Art in American Private Collections are illustrated here. The archaic Greek horse head in marble has been lent by Mr. Walter C. Baker of New York City. This sensitively modeled head dates from about 570 B.C.; it closely resembles another horse head found in the sanctuary of Eleusis and must be one of the earliest known in Greek art. Its height is 36.8 cm. The alabaster monkey, a small figure 12.5 cm. high, is from the collection of Stuart Cary Welch, Jr., Buffalo, New York. The drinking (?), hunching monkey, a product of the prehistoric culture which flourished at Susa around 3000 B.C., is a superb representative of the earliest stone sculpture of Iran.

Numismatic Seminar

A fourth Summer Seminar in Numismatics will be held by the American Numismatic Society at its Museum in New York during the summer of 1955. Grants-in-aid will again be offered to students who will have completed by June of 1955 at least one year of graduate study in archaeology, classics, economics, history, history of art, oriental languages or other humanistic fields. Each study grant will carry a stipend of \$500. This offer is restricted to students enrolled in universities in the United States and Canada. Further information and application forms may be obtained from the office of the Society, Broadway between 155 and 156 Streets, New York 32, New York. Completed applications for the grants must be filed by March 1, 1955.

During the past summer twelve students from seven universities attended the Society's third Seminar. The use of numismatics as a necessary auxiliary to research in history and other broad fields of study provided the theme of the Seminar. The program included background reading on coins, attendance at conferences conducted by specialists in selected fields, and preparation by each student of a paper on a topic of his own selection. M. Henri Seyrig, Director of the French Archaeological Institute at Beirut, Lebanon, acted as consultant for the research activities undertaken by the students.

Royal Numismatic Society Award

Through the generosity of F. Parkes Weber, Esq., M.D., F.S.A., an Annual Prize has been instituted under the administration of the Council of the Royal Numismatic Society for an initial period of fifteen years. The value of the prize will be ten guineas and, in addition, the prize-winner will receive, inscribed with his or her name, a small bronze replica of Dr. Weber's portrait medal by Frank Bowcher.

The prize will be awarded for an original and unpublished essay of not more than 5000 words on any subject relating to coins, medals, medallions or tokens. Competitors should choose their own subjects but may seek guidance if they wish. Entries should be clearly written or typed in English on one side of the paper only and sent, with a stamped addressed envelope for return, to P. D. Whitting, Esq., G.M.,

9 Rivercourt Road, London, W.6, the Hon. Secretary of the Parkes Weber Prize Committee.

Competitors for the prize may be of any nationality but must be under the age of twenty-three on the final day of entry, August 31st. The award will be announced in December of the same year. No award will be made to a candidate who has won it previously and the Council of the Royal Numismatic Society reserves the right to advise that no award be made in any given year if entries are not of sufficiently high standard.

From South Arabia

(We owe the following report of an interesting find made in South Arabia to Professor W. F. Albright of Johns Hopkins University.)

A bronze statuette of an Indian girl was recovered recently by Frank P. Albright while excavating in Oman, South Arabia. The site in which the specimen was found is the ancient fortress and port city SMR (the vocalization of the name is unknown), located at Khor Rori about thirty miles east of Salalah in Zofar, Oman.

The figure, about $3\frac{1}{4}$ inches in height, portrays a girl dancing and presumably playing a flute. The head, feet and left arm are missing. It has been dated in the second century A.D. by

Professor Ludwig Bachhofer of the University of Chicago who adds: "The general impression I get from the photo is that the statuette is rather early. . . . A great deal may depend on the two upright remnants sticking out from the shoulders. I take it that they are the fragments of earrings. The necklace and girdle seem to be made of chains. This, and the eccentric arrangement of the loin cloth, point to the date I have mentioned."

Great importance is attached to this figurine since it is the first certain import from India yet found in South Arabia. Commercial relations between these two areas would seem to have been inevitable in view of their geographic proximity, and this statuette provides a small but significant fragment of evidence in support of this view. Merchant ships laden with products from India must have called at Arabian ports like SMR. Although the site has a good harbor, it is not listed by Ptolemy and has not been known previously. Inscriptions found in the gateway of the city relate that it was founded by Eleazos Yalit in the first century A.D. Evidence recovered in the excavations shows that occupation at the site came to an end before the beginning of Islam.

The present excavation at SMR is the fourth in a series of campaigns sponsored by the American Foundation for the Study of Man under the leadership of Wendell Phillips. It is hoped that further excavation will shed more light on ancient relations between Arabia and India.

Palaeolithic in Illinois

Excavations in a rock shelter near Modoc, Randolph County, in southern Illinois, have resulted in the discovery of the oldest Indian site—nearly 11,000 years old—yet found east of the Mississippi. The site is located at the base of an eighty-two foot bluff near the Mississippi River. First discovered several years ago by highway crews taking dirt from the site to fill in roadbeds in the area, it was reported by Irvin Peithman of Southern Illinois University at Carbondale. The first archaeological work was undertaken in 1952 under the supervision of Dr. Thorne Deuel, Director of the Illinois State Museum, with Melvin L. Fowler, Curator of Archaeology at the Museum, directing

field work. In 1953 the work was conducted jointly by the Illinois State Museum, the University of Chicago and the Wenner-Gren Foundation. John Buettner-Janusch and Howard Winters were in charge.

Carbon samples collected at the site by Dr. Frederick R. Matson were subjected to Carbon 14 tests by Dr. Willard Libby of the Institute of Nuclear Studies of the University of Chicago. Those from a depth of twenty-six feet—the deepest level ever excavated in Illinois—were dated at 8697 B.C., plus or minus 650 years. This is contemporaneous with the Folsom period of the southwestern United States. The depth of the deposits and the type of artifacts found, chipped flint, spearheads, drills, scrapers, ground stone axes, shell beads and hearths, indicated that the site was one of major importance but its full significance was not realized until the dates were released by Dr. Libby. It was originally thought to be about 7,000 years old. Other approximate dates of carbon samples found on the site were 6597 B.C. at twenty-two feet and 4001 B.C. at sixteen feet. The culture at all dated levels is palaeolithic and in the United States is commonly known as Archaic.

The Illinois State Museum's program for the summer of 1954 was the excavation of an Archaic village site and mound in Hardin County. This site is considered particularly interesting because it seems to be of the same period as the upper levels of the Modoc rock shelter and has already yielded numerous types of polished stones called "ceremonials" or "banner stones."

"Archaeology as a Career"

Great interest has already been shown in this article by Professor JOHN H. ROWE. Notices published in *Antiquity* and *The Biblical Archaeologist* have produced many large orders for reprints from societies, museums and universities in the United States and other countries. We regret that it may no longer be possible to fill large orders but readers wishing single copies or a small number of copies may write after January 1, 1955 to the Business Manager, ARCHAEOLOGY, Andover Hall, Cambridge 38, Mass. A few orders from institutions can be accepted at \$3.00 plus postage for 50 copies and \$5.00 plus postage for 100 copies.





BRIEF NOTICES OF RECENT BOOKS

Early Guatemalan History

Memorial de Tecpan-Atitlán (Sololá) / Anales de los Cakchiqueles / Historia del antiguo Reino del Cakchiquel dicho de Guatemala, edited by ERNST MENGIN. 46 pages, 96 plates. Ejnar Munksgaard, Copenhagen 1952 (*Corpus Codicum Americanorum Medii Aevi*, Vol. IV) \$76.00

Memorial de Sololá / Anales de los Cakchiqueles / Título de los Señores de Totonicapán, edited by ADRIAN RECINOS. 303 pages. Biblioteca Americana, Fondo de Cultura Económica, Mexico 1950

The Annals of the Cakchiquels / Title of the Lords of Totonicapán. ix, 217 pages. University of Oklahoma Press, Norman, Oklahoma 1953 (*The Civilization of the American Indian Series*, 37) \$3.75

The Annals of the Cakchiquels is one of the most famous and most important sources for the legendary pre-conquest history of Guatemala. Brinton (*The Annals of the Cakchiquels*, Philadelphia, 1885) terms the document "one of the most important in aboriginal American Literature, both for its historical and linguistic merits." It was written, apparently, in the second half of the sixteenth century, an historical record of the city kingdom of the Cakchiquel nation of Guatemala. Beginning with the traditions of the founding, it continues until about the year 1600 with relatively reliable history. The traditional portion is, of course, of greatest interest to archaeologists.

The original of the manuscript is in the Brinton Collection of the University Museum, Philadelphia, written in the Cakchiquel language but in modern script. Though carefully treasured in a vault, in these days of possible wholesale destruction it is a boon to have it reproduced in facsimile for the first time as well as widely disseminated. This reproduction of ninety-six pages forms the greater part of the Mengin-Munksgaard volume, a magnificent

folio example of bookmaking and typography. The collotype plates are preceded by an Introduction with pertinent bibliography, repeated in French, German and Spanish. The Introduction gives the history, description and brief survey of the contents of the manuscript. No translation or appraisal of published translations is attempted. It is a welcome peer to the three preceding numbers of the *Corpus Codicum Americanorum*.

The Recinos edition consists mainly of a translation into Spanish, without publication of the original. Naturally, persons competent to pronounce upon the accuracy of translation from this obscure Mayan language are almost as scarce as the proverbial hen's teeth, and the reviewer is not one. Dr. Adrián Recinos, with his familiarity with the language, should have produced a reliable translation. It is preceded by a discussion of the history and authorship of the manuscript, the Cakchiquel and their language, and other pertinent matters. A second part of this book reprints a translation of the *Título de los Señores de Totonicapán*. This was apparently written in the Quiché (another Mayan) language in 1554; the original has disappeared. The translation was made in 1834 by P. Dionisio José Chonay. Since it recounts the legendary and mythological history of the Quiché, another native nation of Guatemala, it is most helpful to have it more accessible.

The Oklahoma Press book is a translation of the above into English, by Delia Goetz, and makes these sources available to those who do not control Spanish. *The Title of the Lords of Totonicapán* appears in English for the first time, the *Annals of the Cakchiquels* for the first time since Brinton's translation. While rather freer than the latter, Miss Goetz's translation does not seem to differ greatly. However, nothing to date pretends to be a complete sequential translation of the original text. Like Brinton, Recinos begins his translation on page 18 of the original.

Brinton omitted these first seventeen pages; Recinos translates parts of them at the end of his work, but not all, not in order, and indicated only by reference to the manuscript pages. Brinton also omitted the last thirty pages which consist largely of personal and familial data of no historic interest. Recinos translates much of this in his Spanish edition, but reduces it greatly in the English edition.

J. ALDEN MASON

University Museum
University of Pennsylvania

Iranian Art and Culture

The Legacy of Persia, edited by A. J. ARBERRY. xvi, 421 pages, 53 plates. Oxford University Press, London 1953 \$6.00

With the birth of this new member the Legacy Series, brought into being so many years ago, now numbers ten volumes. It is a pleasure to record that the latest in the series is as well written, painlessly informative and carefully assembled as its predecessors. Thirteen chapters supply comprehensive coverage of the major stages and aspects of Iranian history and culture. These writers are not only well qualified but display a happy knack of slipping in anecdote, amusing or startling items to keep the reader's attention stimulated. The reader unfamiliar with Iran will not find the subject matter too technical nor too foreign to his experience, while the reviewer—who may claim to know the country well—found fresh material on almost every page.

Three excellent chapters describe relations between Iran and her neighbors from ancient times up into the Moslem centuries. Some of this same ground is covered in another chapter entitled "Persia as seen by the West," but the latter looks at things from a different point of view. Separate chapters deal with art, religion, language, literature, carpets, gardens and science. These range from rather scholarly presentations of language and religion to the

delicate essay on the country's gardens. Among such varied fare readers are bound to have their favorite chapters: many will surely be intrigued by "The Royame of Perse" describing the image of the country built up in England from the fabulous accounts of missionaries and travelers, while others will prefer the more solid fare in the chapter on literature by Arberry.

While it is apparent that these authors really love the country about which they are writing, it is less easy to understand why Britons find it impossible to call this country Iran. Thus, on the third page we read: "In modern times, under the reign of Riza Shah, the more comprehensive name Iran was for a time officially readopted, as part of a policy exalting the wider Achaemenid or Aryan tradition." This is scarcely correct, for the inhabitants have called their country Iran for centuries and all Riza Shah did was to try to persuade foreign nations to call it Iran and not Persia.

Some unevenness of presentation is to be expected in a volume which is the work of so many hands. Among the illustrations for the first chapter is the bronze head of a man said to be in the possession of Brummer: this important piece was acquired some years ago by the Metropolitan Museum of Art. The chapter on Islamic art may not always reflect information available to the scholar working in Iran, for in the pages devoted to ceramics the reader will learn of the traditional pottery centers of Ray, Kashan, Sava and Sultana-bad but will find nothing about the inexhaustible finds of recent years in the Gorgan area. To some the chapter on "Persia and India after the Conquest of Mahmud" may be the least convincing of the series. While the author obviously knows his Indian material well, the suspicion that he lacks first-hand knowledge of sites and structures in Iran comes from the fact that the names of several are misspelled. For this reason the statements relating to direct Iranian influence upon design and construction in India do not seem clothed with sufficient authority.

In addition to numerous illustrations, the book is provided with a bibliography and a long and very useful table of dates. There is also a good index.

DONALD N. WILBER
Princeton, New Jersey

Three Studies of Ancient Athens

Forntidens Athen, by NATAN VALMIN. 305 pages, 37 plates, 4 plans. Natur och Kultur, Stockholm 1953 23.50 Sw.Crs. (unbound), 28 Sw.Crs. (bound)

The Ancient City of Athens, by IDA THALLON HILL. xi, 258 pages, 2 plates, 34 plans. Methuen and Co., London 1953 25s.

Aten och Delfi, by ERIK J. HOLMBERG. 164 pages, 97 figures. C. W. K. Gleerup, Lund 1953 18 Sw.Crs.

It is indicative of awakened interest in the topography and monuments of Athens that these three books appeared during 1953. They are the first comprehensive works embodying the results of extensive excavations carried on within the ancient city by German, Greek and American archaeologists since 1930.

Valmin's book, in Swedish, is addressed to the informed traveler. It is written in a popular, almost racy style which seems intended to rescue the reader from boredom. Not only amateurs but archaeologists and students of history will find much of interest in this treatment of the ancient city and its harbor Peiraeus. The conclusions are always clearly and boldly expressed, even when they run counter to views accepted by other scholars. The book is marred by inaccuracies, exaggerations and some startling inconsistencies. Discarded theories are offered as warmed-up leftovers from a past era of archaeological controversy. The "Old Temple" on the Acropolis is still served up as the traditional three-course meal, first without the colonnade (ca. 570 B.C.), then with columns added (ca. 520 B.C.), and finally as restored after the Persian destruction, again without the colonnade. Valmin assigns the Herakles-Triton group and the three-bodied "Nereus" to the gables of the first period but does not make clear whether they were placed together or at opposite ends of the temple. On the temple of the second period he places the marble group of Athena with the Giants in one gable and in the other "a pair of lions tearing an ox to pieces." The uninformed reader would hardly suspect that this animal group of *poros* has been shown beyond any reasonable doubt to have been the central motive in the pediment composition of which the Herakles-Triton group and the three-bodied sea god occupy the

corners. Nor is the fact mentioned that Schuchhardt and Dinsmoor have demonstrated that the supposed temple of 570 B.C. is too small for the sculptural decoration and the sima assigned to it.

The statement will hardly seem convincing that the harbor of Peiraeus in ancient times was crowded with "heavily laden ships from nearly as many countries as in our own day," or that the Athenian empire of Pericles had a population of about 15,000,000, nearly twice as large as that of modern Greece. More serious are discrepancies between the earlier and later chapters. On page 88, Valmin states that the location of the covered theater known as the Agrippeion is unknown, but later he describes this monument and says it is the best preserved, best investigated and best published of all the buildings in the Agora. The west annex of the Stoa of Zeus is said to have been added "in the years following the destruction by Sulla, in all probability about the year 0"; two pages later, Hadrian is credited with its construction.

It is regrettable that a book conceived on such an ambitious scale should be marred with so many readily avoided inaccuracies. There is need for a book of this type and Valmin's volume would merit translation, making it available to a larger circle; but it needs to be thoroughly revised and brought into harmony with recent investigations.

Mrs. Hill's book is completely different from that of Valmin. Hers is a scholarly summary of all that is known about the topography of ancient Athens, with more space correctly devoted to recent excavations than to the results of older investigations. The author has scanned all the literature bearing on her subject and has condensed this vast amount of information into a little over two hundred pages. Extensive notes contain the most up-to-date bibliography. A list of books is appended, containing the important general works relating to the subject. Two serious omissions are: *Archaic Marble Sculpture from the Acropolis*, by Payne and Young, and John Day's *Economic History of Athens under the Roman Domination*.

Mrs. Hill's work was begun on a larger scale as a new edition of Jane Harrison's *Mythology and Monuments of Ancient Athens*; many will regret that this plan was not carried through.

By condensing the material the author has in several instances lost contact with her readers. She frequently omits the background material and plunges into discussion for which the reader is not prepared unless he has first digested the literature in the notes. She sometimes builds her description of a monument around plans which are not even mentioned in the text. This tendency to take too much for granted lessens the usefulness of the book as a text in Athenian topography. The book seems rather designed as a summary and guide for the specialist.

Though following the trail of Pausanias, the author has been able to avoid lengthy digressions on controversial subjects. She frequently presents divergent views without argumentation and leaves the reader to plot his course through the undergrowth of conflicting theories. The illustrative material is chosen for its usefulness, rather than to make the book attractive. Thirty-four up-to-date plans are particularly welcome. The selection is excellent and the less well known monuments recently revealed are given priority.

Not the least attractive feature of the book is its low price. By almost ruthless condensation of the text and omission of all but the most essential illustrations, the book has been priced within reach of those to whom it will prove most helpful.

Holmberg's book, which contains brief descriptions in Swedish of Athens and Delphi, is designed chiefly as a guide. Holmberg, like Valmin, takes issue with Dinsmoor and others on the history of the "Old Temple," in which he follows Dörpfeld's well known formula. Except on this point, the book is largely free of controversial material. The reason for combining the two sites into a single volume seems to be only a desire to help the traveler. The close affinity in cult and religion between Athens and Delphi might have been utilized to tie the two parts of the book together, but this relationship is not emphasized. Of the three books, Holmberg's is the best illustrated and the most attractively published.

OSCAR BRONEER

University of Chicago

Egyptian Archaeology

Manuel d'archéologie égyptienne, by J. VANDIER. Vol. I, Les époques de formation: part 1, La préhistoire; part 2, Les trois premières dynasties. viii, 1044 pages, frontispiece, 665 figures. A. and J. Picard, Paris 1952 4300 fr.

This volume in two parts inaugurates a series which is to consist of a volume devoted to the periods of formation, the pre-historic, Thinite and Third Dynasty periods, a second and third volume to be devoted to the Old, Middle and New Kingdoms, and a fourth and last volume to be devoted to the "late" period, with special emphasis on the Ptolemaic phase. The plan and scope of the undertaking is vast. The manual is intended to serve as a guide to Egyptian archaeology, and to treat of Egyptian history, religion, esthetic and literature only incidentally. Its contribution to these related aspects, however, is by no means slight, since a meticulous study of the monuments is essential to their correct interpretation. Professor Vandier by virtue of his extensive experience at the

A work of enormous interest— a reconstruction of the Rome of the Caesars **The Grandeur That Was ROME**

BY GIUSEPPE GATTESCHI

Edited by G. N. Di Leopoldo. Authentic Restorations of her Ancient Temples, Palaces, Monuments, Forums, and a Guide to Their Sites in Modern Rome

An eminent archaeologist's famous hobby bears fruit in this unusual, delightful book. 50 of the most illustrious landmarks of ancient Rome, including the Temple of Jove, the Forum, the Palatine Hill, the Golden Statue of Nero, Hadrian's Tomb, and many, many more are recreated by drawings, in all their glorious detail. Opposite each reproduction is a photograph of the site as it appears in the 20th century. Lucid text, comments and descriptions. Over 100 illustrations. 7 7/8" x 10 3/4". \$5.50

At all bookstores, or

HASTINGS HOUSE, Publishers

New York 22



THE MEDIAEVAL ACADEMY OF AMERICA

was founded in Boston in 1925 and incorporated under the laws of the Commonwealth of Massachusetts "to conduct, encourage, promote and support research, publication, and instruction in mediaeval records, literature, languages, arts, archaeology, history, philosophy, science, life and all other aspects of mediaeval civilization by publications, by research, and by such other means as may be desirable, and to hold property for such purpose." Membership in the Academy is open to all persons interested in mediaeval studies.

SPECULUM, published quarterly since 1926 by the Mediaeval Academy of America, presents articles and reviews concerned with mediaeval architecture, armor, fine arts, geography, heraldry, law, literature, music, numismatics, philosophy, science, and social and economic institutions of the Middle Ages.

THE MEDIAEVAL ACADEMY OF AMERICA

1430 MASSACHUSETTS AVENUE, CAMBRIDGE 38, MASSACHUSETTS

Louvre, in the classroom and in Egypt is particularly well qualified to carry out this task, as the reader of this volume will readily appreciate.

The author discusses the sites and monuments within the outlined chronological framework. In the case of the neolithic settlements, they are discussed by site, following the excavators' reports, and then their points of contact and their differences are summarized. For the predynastic period the tombs, the pottery, the funerary equipment, the sculpture, the ivories, the ceremonial palettes and maces, and the salient points of the civilization are discussed under separate headings; and the location and features of the sites are discussed together. This plan makes for clarity. For the first two dynasties much use is made of Reisner's classification of the tombs by superstructure and substructure. Individual chapters are devoted to the stelae, the funerary equipment, and the inscribed tablets and cylinders; these chapters are among the best. The section on the Third Dynasty is largely concerned with the Step Pyramid complex but also includes other material.

One of the chief virtues of the man-

ual is that it makes readily available in compact form a condensation of a large number of publications with their essential illustrations, in many cases for the first time. Where there is a notable lack of consensus of opinion among scholars, Professor Vandier remains judicious. His observations on individual monuments are often penetrating and his summaries informative.

The reader may experience difficulty with the illustrations, which are both the strength and weakness of the volume, for in reproducing them from their sources certain figures lose their significance (for example, the colored maps from Sandford and Arkell's work). The plans from the publications of the Step Pyramid have been reduced to the extent that the letters designating chambers and courts have been almost totally lost, making it difficult to use them with the text. In certain cases, line drawings would have been preferable to photographs; and the scale indications are almost entirely missing. Although some of the photographic figures, such as the Hesy-Re panels, are excellently reproduced, one hopes that there will be an attempt to "up-grade" the illustrations

in the ensuing volumes.

As an introduction to Egyptian archaeology this manual, supplemented by constant reference to the sources, promises well to be useful, and Egyptology will remain in Vandier's debt for this achievement. Recent discoveries in Egypt have demonstrated anew how much we may still expect to learn.

WILLIAM KELLY SIMPSON
American Research Center, Cairo

North African Picture Book

Algérie Antique, by LOUIS LESCHI. 197 pages, 4 color plates, 187 figures, 1 map. Arts et Métiers Graphiques, Paris 1952

The battles of World War II have made many people realize that North Africa is more than a land of casbahs and veiled ladies. Relatively few know of its archaeological wealth which is now vividly brought to life in this handsome picture book.

A sequence of splendid photographs by M. Bovis, generally full page, presents Punic, Roman, Early Christian and Byzantine remains. M. Leschi, Director of Antiquities for Algeria, has written a brief introduction explaining

the grouping according to the ancient Roman provinces. The remainder of the text is limited to succinct evocations of the different sites—Hippo (the modern Bône) where St. Augustine was bishop; Tebessa, familiar to many American GIs; Timgad, often called the Pompeii of North Africa; Djemila and Tipasa. One misses such a place as Tizirt with a well preserved Roman temple and partially reconstructed Christian basilica with sculptural decoration, of which there is so little in North Africa.

Most of the buildings, sculpture and mosaics have been reproduced before but gain from M. Bovis' fresh angle, from his focus on beauty and spirit as well as on archaeology. Of especial interest to the student of Algerian antiquities are the occasional new objects and the glimpses of recent excavations. There are so many photographs that it may seem captious to wish for more. One regrets, however, not seeing the huge bronze trophy from Hippo, mentioned in the text, and a few more mosaics (perhaps at the expense of some busts?) which were so colorful a part of Roman and Christian Africa.

Although the modern cities of North Africa, like Algiers, are frequently called the white cities, the color photographs in this book show that the ancient ones are justly named "les villes d'or."

MARGARET A. ALEXANDER
Pittsburgh, Pennsylvania

Light on the Tiahuanaco Problem

Excavations at Wari, Ayacucho, Peru, by WENDELL C. BENNETT. 126 pages, 12 plates, 21 figures. Yale University Press, New Haven 1953 (Yale University Publications in Anthropology, No. 49) \$3.00

Wendell Bennett's last work, published after his untimely and tragic death in September of 1953, is a fitting climax to the career of this most prolific writer among Peruvianists. Bennett's bibliography is remarkable for both quantity and quality, but among his excellent reports this is perhaps the most outstanding of all.

In this paper Bennett has given a detailed account of excavations at the important highland site of Wari, near Ayacucho in the Andes of Central Peru. Occupying roughly a square mile,

Wari has long been of interest not only because of its importance in pre-Conquest times, but also because of architectural and ceramic resemblances to the famous Bolivian ceremonial center, Tiahuanaco. In fact, Wari has been believed by some to be the focus of the Tiahuanaco style, and Larco, for example, has taken to using the Hispanicized version, Huari, to refer to all Peruvian coastal manifestations of this highland style. It is exactly this problem, the origin and spread of the Tiahuanacoid culture, upon which Bennett tries so successfully to shed some light.

Bennett first outlines the geography of the Mantaro River basin in which Wari is located, and its significance in Peruvian prehistory, and points up the paucity of scientific field work in this important area. He then proceeds to detailed information on Wari itself, including architecture and stone carving. This is followed by a description of the refuse deposits and excavations therein as well as at the neighboring sites of Acuchimay and Conchopata. This section concludes with an analysis of the stratigraphy.

The major portion of the monograph deals with the ceramics of Wari and other nearby sites. Since excavations were made exclusively in house refuse deposits, little is said about textiles and other artifacts, which can be found in graves in greater quantity and better condition. The ceramic descriptions are detailed, and all material is analyzed by color and design elements. Mention should be made of the excellence of Shirley Glaser's specimen drawings. Those interested in the more technical aspects of the Wari material will find ample food for study in Bennett's pottery descriptions, while those more inclined to study the relationship of Wari to the over-all picture of Peruvian archaeology will turn to the thorough analysis of internal and external relationships which emerge from the detailed studies.

The temporal relation of the pottery styles is clearly set forth, and is followed by a comparison of Wari ceramics and architecture with those of other Andean sites, both coastal and highland. In other words, the reader will find here a synthesis of published work on all sites of the Tiahuanaco or Wari culture yet scientifically studied. Minor discrepancies noted here may undoubtedly be attributed to the death of the

author before final proof reading.

The concluding portion deals with findings relative to both the Wari culture *per se* and its position in the spread of the Tiahuanaco horizon. The author points out that only certain Tiahuanaco elements are encountered in the Wari culture as a whole, and poses the problem whether the Tiahuanaco spread was accompanied by migrations or was merely a diffusion of ceramic and textile styles, possibly with religious significance. He concludes that Wari was greatly influenced by Tiahuanaco, and feels that it may well have been the fountainhead of the Peruvian manifestations of that culture, but he still considers that the evidence is in favor of Tiahuanaco antedating Wari and being the origin and focus of the cultural traits which bear its name. He states, however, that there are strong implications that the non-Tiahuanaco aspects of the Wari culture are a local development and that the location and importance of the site favor its having been the focal point of a regional civilization. The final resolution of the nature of the Tiahuanaco spread, as Bennett points out, must await more field work in the region between Wari and Lake Titicaca.

It is to be deeply regretted that Wendell C. Bennett is no longer with us to carry on this work to which he has contributed so much. *Excavations at Wari* will remain a milestone pointing the way toward further research in and knowledge of the Andean area.

LOUIS M. STUMER
Columbia University

Ecology of Prehistoric Europe

Prehistoric Europe: The Economic Basis, by J. G. D. CLARK. xix, 349 pages, 180 figures, 16 plates. Philosophical Library, New York 1952 \$12.00

This fine summary volume on the economy of prehistoric Europe has a great deal to recommend it to those of archaeological interests. With chapters on ecological zones and economic stages, coastal and inland catching and gathering, farming and pastoralism, housing, technological processes, trade and travel, it differs much from the usual sole concern with typology and chronology of stone and bone artifacts, ceramics and weapons. It is strongly ecologically oriented, relating the activities under discussion to the environ-

ing world. The illustrative materials—plates, maps and line drawings—are excellent and profuse.

This is no work for the uninitiated, since the author assumes a thorough familiarity with the topography, sites and cultures of his period. Unfortunately, relatively little information is given on the prehistoric scenes of southwestern, southern and southeastern Europe; this hiatus is explained on the grounds that adequate archaeological data are lacking from these regions. Reading of this synthesis may induce some of the regional specialists to turn their attention to less obvious and conventional kinds of archaeological evidence when they appreciate how much of the record, previously either ignored or destroyed through inadvertence, may be utilized for a fuller reconstruction of the prehistoric cultures of Europe.

There are few improvements which could be made in organization, but the plates, located together at the front of the book, might profitably have page references incorporated in their captions. With our present hopes for the future of European prehistoric archaeology, we imagine that this synthesis could profitably be revised every decade. Continuing efforts in this direction deserve every encouragement.

ROBERT F. SPIER

University of Missouri

Etruscan Art

An Introduction to Etruscan Art, by P. J. RIIS. 144 pages, 82 plates. Ejnar Munksgaard, Copenhagen 1953. Dan. Kr. 20

It is a pleasure to welcome the first comprehensive introduction to Etruscan art written by a competent scholar in English, even though the English is at times slightly Danish. Unlike Miss Richter's *Etruscan Art in the Metropolitan Museum* (1940) and the reviewer's sketch *The Etruscans and their Art* (Museum of Rhode Island School of Design, 1940), which were based on objects in individual museums, Professor Riis' series of essays does justice to the wide range of Etruscan art. He writes readably, agreeably and often charmingly. He knows how to sketch the vignette of an Italian hill town, how to inject a touch of dry humor and how to make his points with apposite quotations of poetry

from Martial to Macaulay. He is writing for the general public and he explains matters as he goes along, taking nothing for granted. Those, for instance, who have not learned or have forgotten their mythology, will find themselves enlightened *en passant*. Yet the arrangement of the ten chapters is methodical and the author's command of material imposing, even though casually revealed. The subjects treated are: Etruria and the Etruscans; The Genesis of Etruscan Art; The Arts of the Etruscan Dominions in South Italy; The Etruscan Architecture of Central Italy; The Sculpture of Central Italy in the Period of Etruscan Power; The Archaic and Classical Painting of Central Italy; Etruscan Colonial Art in North Italy; Late Etruscan Architecture; The Last Centuries of Etruscan Sculpture and Painting; and Etruscan Art and Rome. Scholars will carefully scrutinize the text for its many original suggestions, and to all interested in the archaeology of Etruria the excellent up to date bibliographies alone are "worth the price of admission." There are terse notes on some major problems and these, too, are rewarding—I note here, for example, a cautious (in the absence of first-hand acquaintance) defense of the authenticity of the monumental terra cottas of the Metropolitan Museum against a recent attack by Cagliano de Azevedo.

To a college teacher the book irresistibly suggests itself as a possible text-book for students. It is well suited to stimulate interest, though perhaps not quite so well suited for methodical learning of facts, as it is selective rather than inclusive. The choice of illustrations, too, is original rather than standard, but this side can easily be supplemented by the use of Giglioli's encyclopedic picture book (*L'arte etrusca*, 1934). The mediocre quality of the reproductions is the one real weakness of Professor Riis' book. The majority of the illustrations are taken from other books, often from illustrations that were none too good to begin with, but even those from original photographs do not quite live up to the usual high standards of Scandinavian book-printing. Nevertheless, the book is certainly very much more substantial than the old, sketchy essays by D. Randall-McIver or M. A. Johnstone. Anyone interested in ancient Italy or the Etruscans can read this

book with pleasure and profit. Our general public may not rival the serious-minded Danes, but if there are among the readers of *ARCHAEOLOGY* people desirous of being introduced to the art of the mysterious Etruscans, this is their book.

GEORGE M. A. HANFMANN

Harvard University

Etruscan Painting, by MASSIMO PALLOTTINO (M. E. STANLEY and STUART GILBERT, translators). 140 pages, 64 color plates. Skira, New York 1952 \$12.50

Etruscan tombs were carved out of the rocky hillsides of Etruria and copied on the interior the houses of the living. Some eighty painted sepulchers have been uncovered, decorated mostly with scenes from Etruscan life or with adaptations of Greek mythological tales to suit Etruscan religious ideas. Like the Egyptian, the Etruscan believed in the magical power of tomb paintings to provide for his needs and pleasures in the world beyond. The most famous tombs were at Tarquinii and at Chiusi, ancient Clusium. Some years ago it was possible to enter these tombs and to visit, as it were, the homes of the dead with their walls covered with gaily colored paintings depicting banquets, dancing, games and the like. This is still possible in some cases, but water seepage has damaged a number of these monuments and it has been necessary to remove their murals to museums.

This handsome volume with sixty-four color plates and a thoroughly interesting and informative text by Professor Pallottino of the University of Rome belongs to a new series on the Great Centuries of Painting. It is designed as a popular account of Etruscan painting and will appeal primarily to the general public but also to the student and scholar. It gives an excellent insight into the life and art of the enigmatic and fascinating Etruscans, whose kings ruled Rome for about two hundred years.

The frescoes are discussed and illustrated in chronological order. We have no means for dating Etruscan paintings exactly. After an orientaling period, the Ionico-Etruscan phase fills the sixth century B.C. No three-quarter views, no foreshortening, no plasticity and no spatial attempts are found until the

very end. Massive outlines and strong flat colors were used. The paintings reveal great vitality and ruthless realism. With Attic influence in the fifth century, especially that of red-figured vases, the work is more refined, color sensitive. Foreshortening comes in. The splendid Triclinium Tomb exemplifies this style. Political events and struggles with Rome produced a static period of almost a century from 450 B.C. on when archaic and classical models were used and decadence set in. The Hellenistic age (300-100 B.C.) saw blending of colors, virtuosity of brush work, fine modeling of the face, often in three-quarter view, baroque trends, impressionism and excellent portraiture. Historical subject matter is seen in the François Tomb. Dynamic tension and passion, gloomy and morbid moods characterized late Hellenistic works (Typhon and Cardinal Tombs).

Etruscan paintings followed the innovations of Greek painting but retained their own individual and national character. They are not a substitute for the lost paintings of Greece, though they shed some light on them. No direct copy of a Greek painting by

an Etruscan is known today.

Where so much has been given so well, and at the amazingly low cost of \$12.50, it seems ungrateful to ask for more. One desideratum would seem to be a view or two of the interior of tombs where only part of a wall or a detail is given. In fact the only real criticism that can be leveled at the volume is that we have details where larger areas showing the entire composition appear desirable. The publishers are to be congratulated on the superiority of the work presented which makes a valuable contribution to the field of ancient painting and which will delight every owner of the volume as an ornament to his library.

MARY H. SWINDLER

Bryn Mawr College

Ancient Jewish Symbolism

Jewish Symbols in the Greco-Roman Period, by ERWIN R. GOODENOUGH. Volume 1: xvii, 300 pages; volume 2: xi, 323 pages; volume 3: xxxv, 1209 figures (not paged), plus 10 pages. Pantheon Books, New York 1953 (Bollingen Series, XXXVII) \$25.00

Impressed by the numerous occurrences of apparently non-Jewish symbols among the tombs and synagogues of the Jews of the Greco-Roman world, Professor Goodenough has undertaken in this vast work, which will ultimately comprise seven quarto volumes, to discover what sort of Judaism could have produced them. These first volumes deal with the archaeological evidence from Palestine and from the Diaspora. Those still to come will establish a methodology for interpreting these materials and the most important symbols, evaluating the concept of Judaism that emerges therefrom and its relation to later Judaism and the earlier forms of Christianity. The author expresses the hope that his work "may also offer suggestions for a new methodology applicable to the whole spiritual history of the civilizations behind us." He holds that the spiritual history of the development of Western man must be viewed as "a continuous adaptation of certain basic symbols."

Volume One, after presenting a discussion of the problem and a survey of the literary evidence, takes up the Jewish tombs and synagogues of Palestine.

The Society for the Promotion of Hellenic Studies (founded 1879)

The Society for the Promotion of Roman Studies (founded 1910)

The Societies were founded to promote knowledge of the Hellenic and Roman worlds, their archaeology, art and history.

Each Society holds quarterly meetings and publishes a *Journal* containing well-illustrated contributions of great importance to research, and reviews of recent publications. They also maintain, jointly, a Library of some 25,000 books.

The annual subscription of £2 entitles Members
to receive current issue of the *Journal of Hellenic/Roman Studies*,
to use the Library,
to attend all meetings of the Societies.

For particulars apply to the Secretary of the appropriate Society,

50 Bedford Square • London, W. C. 1, England

V
7
/
4

A final chapter deals with the coins. Volume Two considers symbols used with Jewish burials in the Diaspora, synagogues of the Diaspora, symbols on lamps and glass vessels and evidences of Judaism in the inscriptions, and ends with charms and amulets. Volume Three consists of 1209 well executed illustrations.

In his Philo studies Goodenough has argued for the existence during the Greco-Roman period of a significant Hellenistic, non-rabbinic element in Judaism. The present volumes carry these studies into the area of popular Judaism, which is only dimly indicated in the literature, and try to demonstrate the fallacy of reconstructing the Jewish thought of that period exclusively from the rabbinic writings. Asserting correctly (1.61) that "the Jewish art of antiquity has never been adequately represented," he assembles material from the entire Mediterranean world. In demonstrating symbolism he includes not only figures from the animal and vegetable worlds, but also many geometric patterns and plans of tombs and synagogues, on the ground that there is symbolism even in such details as the use of arches and gables and the arrangement and number of doorways.

D
E

Out of this study there emerges, if Goodenough's interpretations are accepted, a mystic Judaism which manifested itself in frescoes and mosaics of tomb chambers and synagogues, in reliefs on sarcophagi and ossuaries, in figures and texts on sepulchral inscriptions, in lamps, glass vessels, rings, coins, charms and amulets. Virtually every figure and design is regarded as having a mystical and eschatological significance. Not only human figures and animals but also plants, and even rosettes, lozenges, stars and circles with a dot in the middle are interpreted as symbolic. The repetition of many of these figures, especially in environments where decoration would hardly be sought, makes it highly probable that most of them did in fact have a symbolic purpose. In my opinion, however, Goodenough goes much too far in discovering such symbolism everywhere.

5
4

I agree fully that the Judaism of the Diaspora is not to be interpreted from the point of view of rabbinic theology. Those Greek-speaking Jews of Rome who buried their dead in the catacombs were surely not acquainted with the

Talmud, written in a language they did not understand. Yet I doubt that quotations from Philo are particularly helpful in interpreting their brand of Judaism, since his subtle mysticism had little in common with the religion of the masses. That the figures carved on the sepulchral inscriptions originally had a symbolic meaning is entirely probable, but it seems likely that its force was largely lost in the course of generations, for if these figures were actually believed to insure salvation to the deceased, one cannot help wondering why so many of the tomb inscriptions do not have them. It appears to me more probable that the menorah and other cult objects had become conventionalized, to be used or not according to individual preferences. The menorah had, obviously, become par excellence the symbol of Judaism, much as the six-pointed star (*magen David*) is often employed today. On the other hand, Goodenough is unquestionably right in maintaining, against Frey and others, that the painted rooms of the Vigna Randanini catacomb, despite the pagan motifs, are an integral part of the catacomb and are Jewish in origin.

Goodenough is too prone, it seems to me, to accept as Jewish sundry objects that are more than doubtful. It is not clear on just what basis he rates charms and amulets as possibly, probably, and certainly Jewish. Once he admits that pagans commonly used Jewish names in their magic, the identification of the purely Jewish ones becomes exceedingly dubious, especially in those instances where pagan deities are pictured or invoked. Limitation of space prevents consideration of specific details.

Despite my feeling that the author goes too far in maintaining that the symbols either are meaningless or must be accepted in his sense, and in insisting that he has fitted all these "unknowns" into a pattern, the work is of highest importance in that it has assembled an astonishing amount of scattered and previously unpublished materials, has organized and classified them, has brought out hitherto unnoticed details, and has demonstrated that they are not to be taken for granted as merely decorative elements. My chief criticism is that Goodenough goes all out in his interpretations. The value of the subsequent volumes will be greatly increased if the author exercises more restraint and is less insistent on making every

figure fit into a system.

The volumes are distinguished examples of book production. The Bollingen Foundation and Professor Goodenough merit the gratitude of both scholars and laymen for this most important contribution to a field that has hardly been explored.

HARRY J. LEON

The University of Texas

Archaeology in the Sudan

Shaheinab: An Account of the Excavation of a Neolithic Occupation Site Carried Out for the Sudan Antiquities Service in 1949-50, by A. J. ARKELL. xii, 108 pages, 57 figures, 43 plates. Oxford University Press, New York 1953 \$11.00

This is an excavation report in the same handsome format and with the same fine illustrations as Arkell's *Early Khartoum*. The site lies about thirty miles north of Omdurman, on the west bank of the Nile. It is assumed to represent more than a temporary encampment, but no architectural features other than hearths remained. The subsistence level was predominantly that of hunting and fishing, but two kinds of goat and a sheep are taken to be domesticated, on Miss Bate's competent judgment. To Arkell the general assemblage strongly recalls that of the Fayum A "neolithic." His specific points of comparison are not strong, but probably hold in a general way.

There is a suggestion by Arkell that Shaheinab "is apparently somewhat earlier" than Fayum A, in spite of Carbon 14 dates for Shaheinab (5253 ± 415 B.P.) approximately a thousand years younger than those for the Fayum. Behind this special pleading seems to lie the implication that the appearance of food production and of the village-farming community took place to the south of Egypt. The reviewer, a staunch "hilly flanks of the crescent" man, believes it took place in western Asia and that the Carbon 14 results are meaningful as they stand.

The report is well arranged and executed, and indicates a competent field job. It is only on the interpretative level that Mr. Arkell makes us a bit uncomfortable.

ROBERT J. BRAIDWOOD

University of Chicago

NEW BOOKS

Selected at the editorial offices from various sources, including bibliographical publications, publishers' announcements and books received. Prices have not been confirmed.

ANCIENT CORINTH. A Guide to the Excavations. Sixth Edition. 98 pages, frontispiece and 19 plates, 3 plans. American School of Classical Studies at Athens, Athens 1954 \$1.25

CLARK, J. G. D. Excavations at Star Carr. 194 pages, 80 figures. Cambridge University Press, New York 1954

COLE, SONIA. The Prehistory of East Africa. 301 pages, 43 figures, 10 maps, 6 tables, 16 plates. Penguin Books, Baltimore 1954 \$0.65

DIOLÉ, PHILIPPE (GERARD HOPKINS, translator). 4000 Years under the Sea. The Story of Marine Archaeology. xvi, 237 pages, 16 plates, 1 map. Julian Messner, New York 1954 \$4.50

FELLETTI-MAJ, BIANCA MARIA. Corpus Vasorum Antiquorum (Union Académique Internationale). Italia, fasc. XXI: Roma, Museo Preistorico L. Pigorini, fasc. I. 39 pages, 32 plates. La Libreria dello Stato, Rome 1953 6000 lire

FINLEY, M. I. The World of Odysseus. xi, 179 pages. The Viking Press, New York 1954 \$3.00

GJERSTAD, EINAR. Early Rome, I. Stratigraphical Researches in the Forum Romanum and along the Sacra Via. 163 pages, 147 figures. C. W. K. Gleerup, Lund 1953 (Skrifter Utgivna av Svenska Institutet i Rom, XVII:1)

HOOKE, S. H. Babylonian and Assyrian Religion. xii, 128 pages. Hutchinson's University Library, London 1953 (World Religions, edited by E. O. JAMES) 8s.6d.

KOLLWITZ, JOHANNES. Mosaiken. 19 pages, 16 color plates. Verlag Herder, Freiburg 1953 (Der grosse Bilderkreis, 2) DM 7.80

Kush, Volume 1, No. 1, January 1954. Journal of the Sudan Antiquities Service. Edited by P. L. SHINKIE. (Obtainable from Commissioner for Archaeology, P. O. Box 178, Khartoum) 50P.T. or 10s.

LETHBRIDGE, T. C. The Painted Men. 208 pages, 14 plates, 5 maps, 16 figures. Philosophical Library, New York 1954 \$6.00

MARTIN, PAUL S., JOHN B. RINALDO and ELAINE BLUHM. Caves of the Reserve Area. 277 pages, 102 figures, 4 tables. Chicago Natural History Museum, Chicago 1954 (Fieldiana: Anthropology, Volume 42) \$5.00

MEYER, ERNST, editor. Heinrich Schliemann Briefwechsel. Volume 1. 382 pages, 18 plates. Verlag Gebr. Mann, Berlin 1953 DM 24

NEPPI-MODONA, ALDUS. Inscriptiones Italiae, Vol. VII—Regio VII, Etruria. Fasc. I, Pisae (Unione Accademica Nazionale). xxiii pages, 80 columns, 2 maps, 19 plates. La Libreria dello Stato, Rome 1953 5000 lire

O'RIORDAN, SEAN P. Antiquities of the Irish Countryside. Third edition. 183 pages, 88 plates, 5 text figures. Methuen, London 1953 15s.

PARIBENI, ENRICO. Museo Nazionale Romano, Sculture greche del V. secolo, originali e repliche. 79 pages, 125 figures. Libreria dello Stato, Rome 1953 2500 lire

PARROT, A. Ninive et l'Ancien Testament. 78 pages. Delachaux & Niestlé, Neuchâtel 1953 (Cahiers d'Archéologie Biblique, 3) (\$10.85)

PAUL, A. The Beja Tribes of the Sudan. vii, 164 pages, 6 plates, 5 maps. Cambridge University Press, New York 1954 \$3.00

REYNOLDS, J. M., and J. B. WARD PERKINS, editors. The Inscriptions of Roman Tripolitania. viii, 286 pages, 11 plates. British School at Rome, Rome (undated)

RUS, P. J. An Introduction to Etruscan Art. 144 pages, 82 plates. Ejnar Munksgaard, Copenhagen 1953 Dan. Kr. 20

RITCHIE, WILLIAM A. Dutch Hollow, an Early Historic Period Seneca Site in Livingston County, New York. 98 pages, 30 plates, 6 tables. New York State Archeological Association, Albany 1954 (Researches and Transactions of the New York State Archeological Association, Volume XIII, No. 1) \$2.25

ROCCO, ANNA. Corpus Vasorum Antiquorum (Union Académique Internationale). Italia, fasc. XXII: Museo Nazionale di Napoli, fasc. II. 13 pages, 41 plates. La Libreria dello Stato, Rome 1953 6000 lire

SARTON, GEORGE. Ancient Science and Modern Civilization. 111 pages. University of Nebraska Press, Lincoln, Nebraska 1954 \$2.50

SARTON, GEORGE. Galen of Pergamon. x, 112 pages. University of Kansas Press, Lawrence, Kansas 1954 (Logan Clendening Lectures on the History and Philosophy of Medicine, Third Series) \$2.50

SAVAGE, GEORGE. The Art and Antique Restorers' Handbook. A Dictionary of Materials and Processes Used in the Restoration and Preservation of All Kinds of Works of Art. vi, 140 pages. Philosophical Library, New York 1954 \$4.75

SESTIERI, PELLEGRINO CLAUDIO. Paestum, the City, the Prehistoric Necropolis in Contrada Gaudio, the Heraion at the Mouth of the Sele. Second edition (of the English version). 64 pages, 34 figures, 8 maps. La Libreria dello Stato, Rome 1953 (Ministero della Pubblica Istruzione, Direzione Generale di Antichità e Belle Arti, Guide Books to the Museums and Monuments of Italy) 300 lire

THOMPSON, J. ERIC S. The Rise and Fall of Maya Civilization. 287 pages, 24 plates, 1 map. The University of Oklahoma Press, Norman, Oklahoma 1954 \$5.00

TURNER, J. W. CECIL. Introduction to the Study of Roman Private Law. 135 pages. Bowes and Bowes, Cambridge 1953 21s.

VANDIER, J. Manuel d'archéologie égyptienne. Tome I, Les époques de formation. Part 1, La préhistoire. viii, 609 pages, 394 figures. Part 2, Les trois premières dynasties. 435 pages, 271 figures. Éditions A. et J. Picard, Paris 1952 4300 fr.

Walam Olum or Red Score. The Migration Legend of the Lenni Lenape or Delaware Indians. xiv, 379 pages, color frontispiece, end maps. Indiana Historical Society, Indianapolis 1954

WATKINS, HAROLD. Time Counts: The Story of the Calendar. xi, 274 pages, 5 figures, 18 calendar tables. Philosophical Library, New York 1954 \$4.75

WILLEY, GORDON R., and JOHN M. CORBETT. Early Ancón and Early Supe Culture. Chavin Horizon Sites of the Central Peruvian Coast. xxii, 180 pages, 29 figures, 5 maps, 17 tables, 31 plates. Columbia University Press, New York 1954 (Columbia Studies in Archeology and Ethnology, Volume III) \$5.00

ZANCANI MONTUORO, PAOLA, and UMBERTO ZANOTTI-BIANCO. Heraion alla foce del Sele. Volume II, Il Primo Thesaurus. Part 1, 390 pages; Part 2, viii pages, 104 plates. Libreria dello Stato, Rome 1954 35,000 lire

ZERVOS, CHRISTIAN. La civilisation de la Sardaigne du début de l'énéolithique à la fin de la période nuragique. 380 pages, 461 figures, 1 map. Éditions "Cahiers d'Art," Paris (distributed by Wittenborn and Co., New York) 1954 \$25.00

ZIEGLER, C. Die Keramik von der Qala'a des Haggi Moham-med. 88 pages, 4 figures, 37 plates. Gebr. Mann, Berlin 1953 (Ausgrabungen der Deutschen Forschungsgemeinschaft in Uruk-Warka, 5) (\$14.75)

ARCHAEOLOGY VOLUME 7

TABLE OF CONTENTS

Archaeological News	50, 119, 183, 249
BOYCE, ALINE ABAECHERLI: The Foundation and Birthday of Rome in Legend and History	9
Brief Notices of Recent Books	57, 123, 186, 255
BRONEER, OSCAR: An Ancient Monument of World Unity: The South Stoa at Corinth	74
CASKEY, JOHN L.: Lerna 1953	28
CASSON, LIONEL: Sails of the Ancient Mariner	214
DORT, ANNE V.: The Archaeological Institute of America—Early Days	195
FRANTZ, ALISON: The Hephaisteion Revisited	244
FRYE, RICHARD N.: An Epigraphical Journey in Afghanistan	114
GARDNER, PAUL V.: Archaeological Highlights in the John Gellatly Collection	66
GARNER, RAY: The Ancient World on Film	202
GRANT, MICHAEL: Antony and Cleopatra	47
HANFMANN, GEORGE M. A. and BENJAMIN ROWLAND, JR. (with contributions by ANDRÉE LUCE and STUART CARY WELCH, JR.): Ancient Arts at the Fogg Museum	130
JONES, FRANCES FOLLIN: The Princeton Art Museum: Antiquities Received in Recent Years	237
KELLY, A. R.: Etowah, Ancient Cult Center in Georgia	22
KENYON, KATHLEEN M.: Jericho, Oldest Walled Town	2
KRAMER, SAMUEL NOAH: Four Firsts in Man's Recorded History: School, Law, Taxes, Wisdom	138
LANGLOTZ, ERNST: The National Museum at Athens: Its New Arrangement	160
LEHMANN, KARL: The Mystery Cult of Samothrace: Excavations in 1953	91
LOTHROP, SAMUEL K.: A Peruvian Goldsmith's Grave	31
MOVIUS, HALLAM L., JR.: Les Eyzies: A Test Excavation	82
New Books	64, 128, 192, 263
NICHOLSON, H. B.: The Birth of the Smoking Mirror	164
Palaeolithic Child Found in Iraq	21
PALMER, HAZEL: Vanity Box—Third Century B.C.	179
PRITCHETT, W. KENDRICK: Sales Taxes in Ancient Athens	112
PROSKOURIAKOFF, TATIANA: Mayapan, the Last Stronghold of a Civilization	96
ROWE, JOHN HOWLAND: Archaeology as a Career	229
ROWELL, HENRY T.: The Institute and its Future	194
ROWLAND, BENJAMIN, JR. and GEORGE M. A. HANFMANN (with contributions by ANDRÉE LUCE and STUART CARY WELCH, JR.): Ancient Arts at the Fogg Museum	130
SESTIERI, PELLEGRINO CLAUDIO: The Antiquities of Paestum	206
SOLHEIM, WILHELM G., II: The Fourth Far-Eastern Prehistory Congress	48
STUMER, LOUIS M.: The Chillón Valley of Peru; Excavation and Reconnaissance, 1952-1953 (Part 1)	171
STUMER, LOUIS M.: The Chillón Valley of Peru; Excavation and Reconnaissance, 1952-1953 (Part 2)	220
THOMPSON, HOMER A.: Rebuilding the Stoa of Attalos: Progress Report, Spring 1954	180
VAN BUREN, A. W.: Campania and Lucania in 1953	104
VELENDERICH, MICHAEL: Diocletian's Palace at Split: A Suggested Restoration	156
VENTRIS, MICHAEL: King Nestor's Four-Handled Cups, Greek Inventories in the Minoan Script	15
WACE, ALAN J. B.: The Golden Ring	42
WACE, ALAN J. B.: Ivory Carvings from Mycenae	149
WILBER, DONALD N.: Builders and Craftsmen of Islamic Iran	37

ARCHAEOLOGY is indexed in the ART INDEX

BOOKS FROM



CHICAGO

Relative Chronologies in Old World Archeology

Edited by ROBERT W. EHRICH

In these papers, leading authorities on Old World archeology review the archeological sequences in their areas of specialization and deal with concrete evidences of contemporaneity between the various levels of the several areas. Their discoveries are important to archeologists and historians of the ancient world; but they are also useful to anyone concerned with the literature or cultural artifacts of those times. The nine authors have divided their task as follows: Helene J. Kantor, Egypt; W. F. Albright, Palestine; Robert J. Braidwood, Syria; Ann Perkins, Mesopotamia; Donald E. McCown, Iran; Hetty Goldman, Anatolia; Saul S. Weinberg, the Aegean; Robert W. Ehrich, Europe; and Lauriston Ward, China. \$2.50

Archeology of Eastern United States

Edited by JAMES B. GRIFFIN

Twenty-eight distinguished archeologists have contributed chapters to this unique and comprehensive survey of the archeology of the area east of the Rocky Mountains. In one volume they have concentrated a comparative presentation of modern interpretations of America's past. In addition to treating the archeology of specific culture areas, the book provides a general account of the scholars, research methods, and problems identified with each area and is profusely illustrated.

608 pages, 204 plates and figures. \$10.00

At all bookstores

THE UNIVERSITY OF CHICAGO PRESS

5750 Ellis Ave., Chicago 37, Ill.

Beyond the reach of cruise ships

*and the individual traveler—repeating for the nineteenth time
a fabulous itinerary featuring the cities, sites and
scenic beauty of the magic interiors of Egypt,
the Middle East, Greece, Turkey,
and Dalmatia . . .*

1955 ODYSSEY

FEBRUARY 25 TO APRIL 16

Since 1926, the Odyssey has taken more than twenty-five hundred Americans to places usually reserved for fireplace dreaming. In comfort and at moderate cost.

The Main Odyssey (February 25-April 16) is limited to twenty-five members and will visit Egypt, Lebanon, Syria, Iraq, Jordan, Greece. Two post-Odyssey extensions of ten days each will offer Turkey and North Greece—Dalmatia.

Lands bordering the Eastern Mediterranean have changed. For in this colorful region of intellectual interest and scenic beauty you now find good roads, good hotels, good food, good automobiles. And the occasional use of American planes, owned and operated by regular lines, saves time and spares the tedium of empty miles.

Odyssey rendezvous points are Rome and Cairo. Members have the choice of TWA super-Constellations or the fine ships of the Italian and American Export Lines.

Odyssey is now associated with Frew Hall Travel, Inc. In addition to operating its own groups, it is also able to plan individual travel both to the usual and to out-of-the-way parts of the world.

B. D. MacDonald

ODYSSEY CRUISES, INC.

67 East 59th Street, New York

Murray Hill 8-0037

Rome
Cairo
Memphis
Sakkarah
Assuan
Philae
Luxor
Karnak
Dendera
Beirut
Sidon
Tyre
Beaufort
Byblos
Cedars
Baalbek
Damascus
Palmyra
Homs
Water wheels of Hama
Aleppo
Latakia
Crusader Coast
Krak des Chevaliers
Baghdad
Babylon
Ctesiphon
Kerbela
Khadimain
Petra
Jerusalem
Bethlehem
Jericho
Jerash
Athens
Corinth
Mycenae
Tiryns
Epidaurus
Sparta
Mistra
Olympia
Delphi
Knossos
Delos
Smyrna
Pergamon
Sardis
Ephesus
Miletus
Didyma
Istanbul
Hanging Monasteries
Salonika
Macedonia
Montenegro
Cattaro
Ragusa
Trau
Spalato
Venice
Paris

ma

s